



STIC Search Report

EIC 1700

STIC Database Tracking Number: 198832

TO: John Hardee
Location: REM 9A41
Art Unit : 1751
August 17, 2006

Case Serial Number: 10/534315

From: Mei Huang
Location: EIC 1700
REMSSEN 4B28
Phone: 571/272-3952
Mei.huang@uspto.gov

Search Notes

Examiner Hardee,

- Please note that A* can not be distinguished from B* in the formulas 1a-1c of claim 1 because the way they are defined, therefore there is no a good way to control the differences among these three formulas.
- See LL8 for the query of Claim 1 structure, page 2-3, and L14 for the query of Claim 9 structure, page 4.
- Page 5-213 showed the hits on Claim 1 structure. The first 6, page 2-66, are the hits on Author's preferred compounds of Claim 1 structure.
- Page 213-347 showed the hits on Claim 9 structure. The first 26, page 213-283, are the hits of author's preferred compounds of Claim 9 structure.
- The last 7 hits, page 347-366, are the results of combining the structure queries with classification of mixture, MXS/CI, or more than 3 components, 3<= NC.

Please feel free to contact me if you have any questions or if you would like to refine the search query,

Thank you for using STIC services!

Mei Huang

I = 1-6
II = 7-8
III = 9
IV = 10

V = 11
VI = 12-14
VII = 15

8,9



Access DB# P18832

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: HARDET Examiner #: _____ Date: 8/15/06
Art Unit: 1751 Phone Number 30 21318 Serial Number: 151534, 315
Mail Box and Bldg/Room Location: 9A41 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: _____

Inventors (please provide full names): _____

Earliest Priority Filing Date: _____

**For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

Whatever you can find. Thanks

SCIENTIFIC REFERENCE BR
Sci & Tech Inf. Cntr

AUG 16 2006

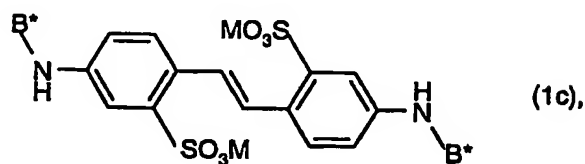
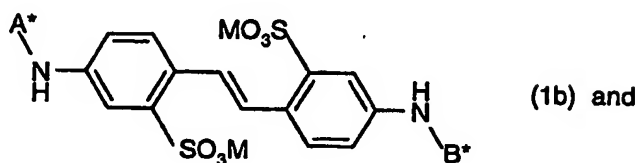
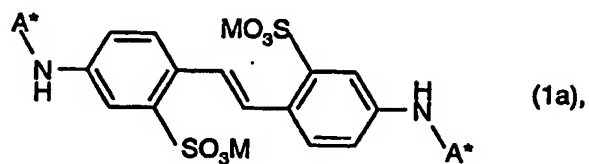
Pat. & T.M. Office

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	Type of Search	Vendors and cost where applicable
Searcher: <u>MBH</u>	NA Sequence (#) _____	STN <u>✓</u> _____
Searcher Phone #: _____	AA Sequence (#) _____	Dialog _____
Searcher Location: _____	Structure (#) <u>3</u>	Questel/Orbit _____
Date Searcher Picked Up: _____	Bibliographic _____	Dr. Link _____
Date Completed: <u>8/17/06</u>	Litigation _____	Lexis/Nexis _____
Searcher Prep & Review Time: _____	Fulltext _____	Sequence Systems _____
Clerical Prep Time: _____	Patent Family _____	WWW/Internet _____
Online Time: _____	Other _____	Other (specify) _____

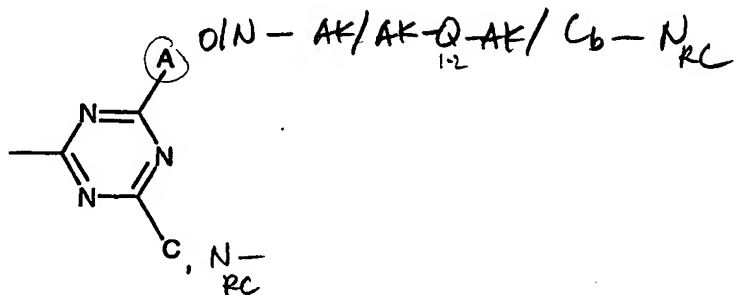
Claims

1. A fluorescent whitening agent, which comprises a mixture of compounds of the formulae



in which

A* represents a group of the formula

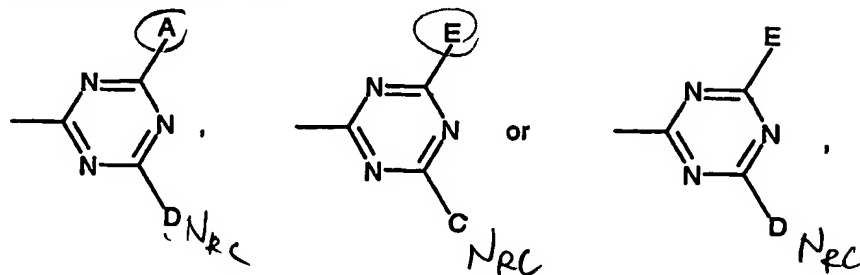


wherein

A represents $-\text{X}-\text{Y}-\text{NR}_3\text{R}_4$ and

C is $-\text{NR}_1\text{R}_2$ and

B* represents a group of the formula



wherein

A & E

D & C

10/534, 315

D represents $-NR_5R_6$ and

E represents $-X_1-Y_1-NR_7R_8$, whereby

X and X_1 each, independently of each other, represent -O- or -NH-,

Y and Y_1 each, independently of each other, represent a straight-chain C_2-C_8 alkylene or branched C_3-C_8 alkylene chain, which may be interrupted by one or two nitrogen, oxygen or sulphur atoms or represent a 5- or 6-membered cycloaliphatic ring, C_6 AK-Q-AK
1-2

R_1 , R_2 , R_5 and R_6 each independently of each other, represent hydrogen, C_1-C_8 alkyl, C_2-C_4 hydroxyalkyl, C_1-C_4 alkoxy C_1-C_4 alkyl, phenyl, which is unsubstituted or substituted by halogen, C_1-C_4 alkoxy, C_1-C_4 alkyl or sulphonamido, or

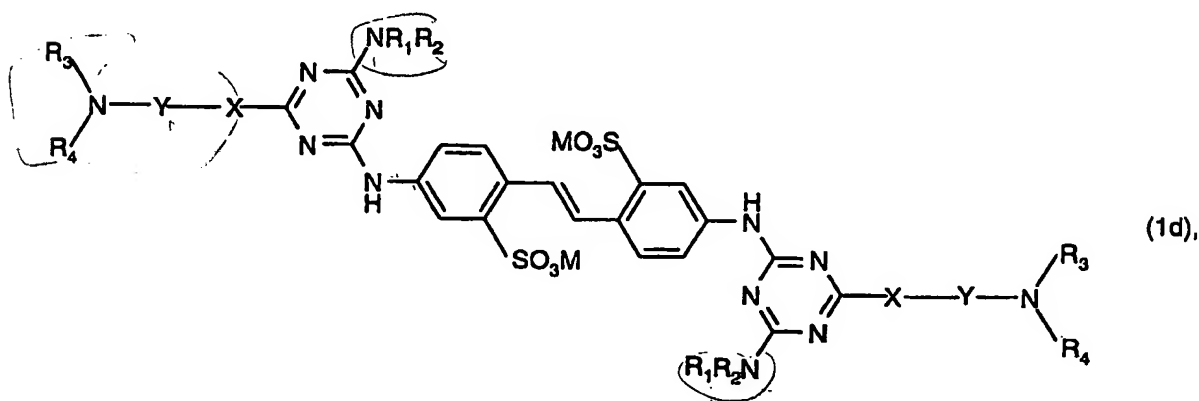
R_1 and R_2 and/or R_5 and R_6 , together with the nitrogen atom to which they are attached, complete a morpholino- piperidino- or pyrrolidino-ring,

R_3 , R_4 , R_7 and R_8 each independently of each other, represent hydrogen, C_1-C_4 alkyl, C_2-C_4 hydroxyalkyl or

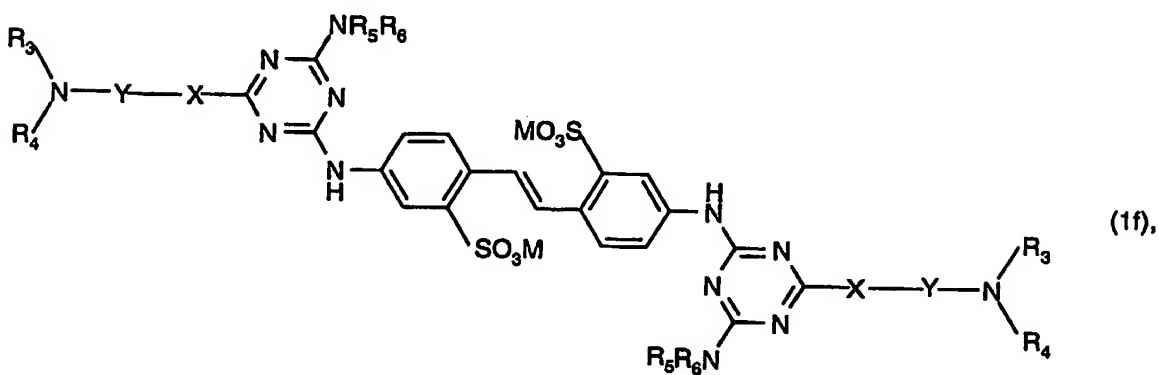
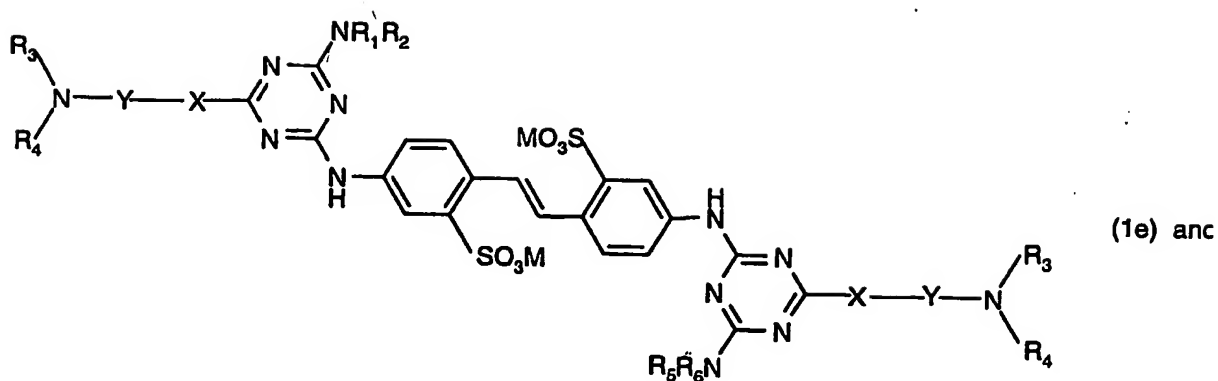
R_3 and R_4 and/or R_7 and R_8 , together with the nitrogen atom to which they are attached, complete a morpholino-, piperidino- or pyrrolidino-ring and

M represents hydrogen, an alkaline or alkaline earth metal, ammonium or alkylammonium.

2. A fluorescent whitening agent, according to claim 1, which comprises a mixture of compounds of the formulae



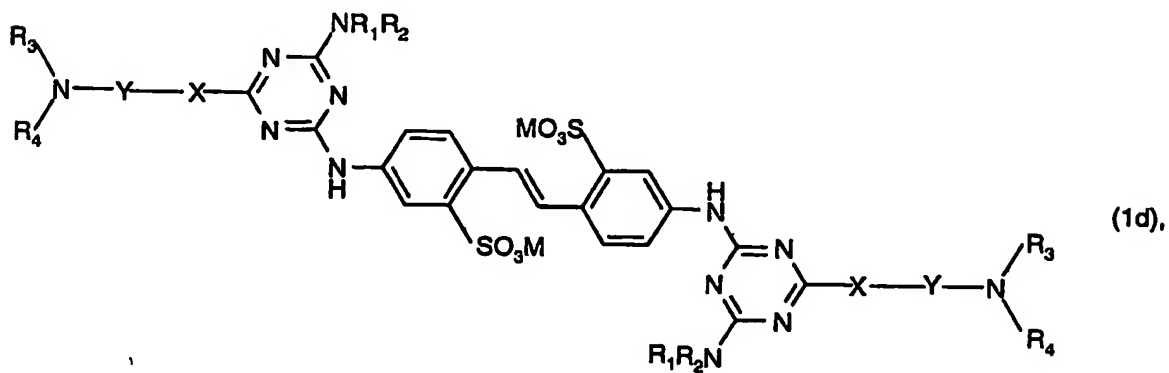
- 67 -

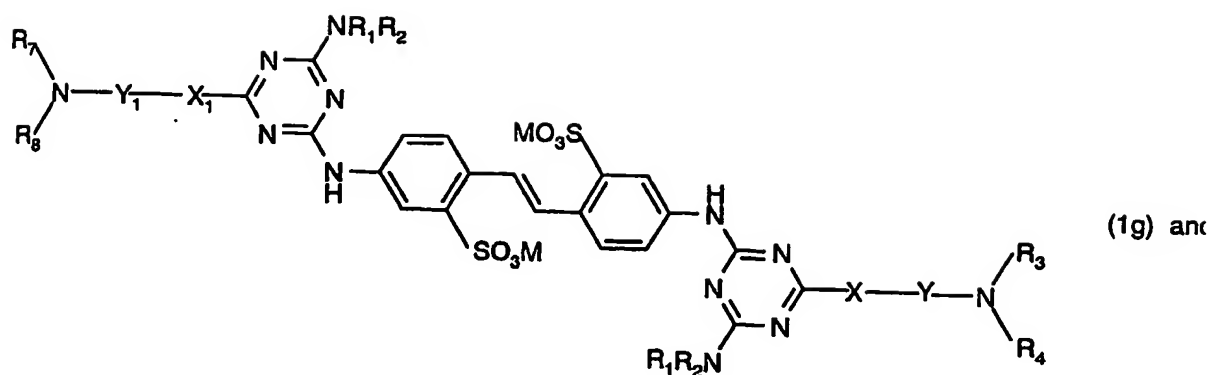


In which

X, Y, R_1 , R_2 , R_3 , R_4 , R_5 , R_6 and M are as defined in claim 1.

3. A fluorescent whitening agent, according to claim 1, which comprises a mixture of compounds of the formulae

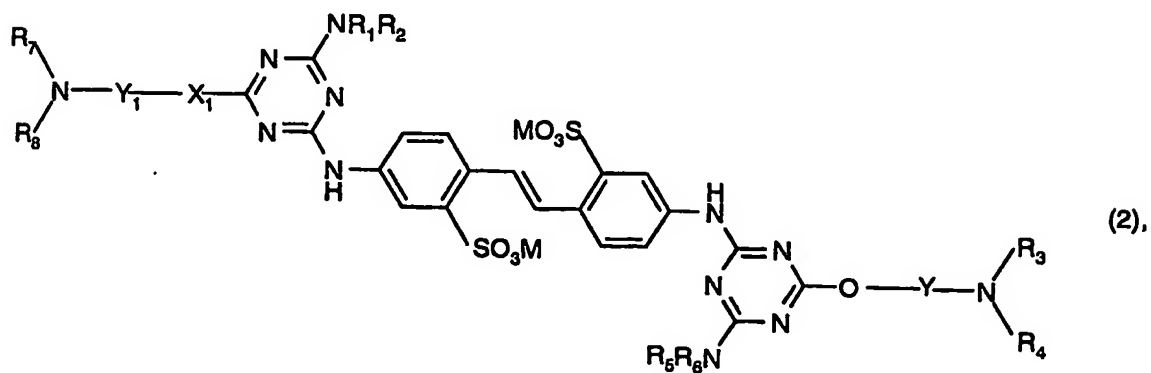




in which

X, X₁, Y, Y₁, R₁, R₂, R₃, R₄, R₇, R₈ and M are as defined in claim 1.

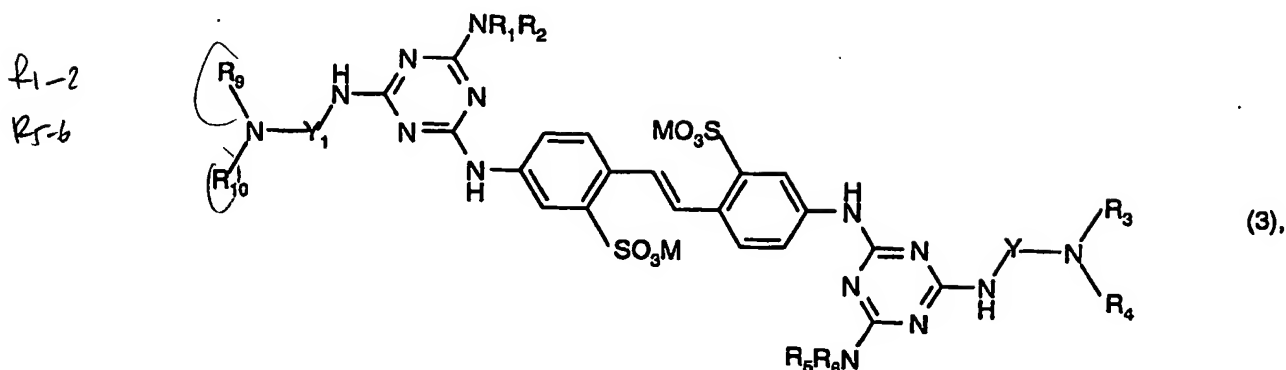
4. A compound of formula



in which

X₁, Y, Y₁, R₁, R₂, R₃, R₄, R₅, R₆, R₇, R₈ and M are as defined in claim 1.

5. A compound of the formula



in which

R_9 and R_{10} , each independently of each other, represent hydrogen or C_2 - C_4 hydroxyalkyl and Y , Y_1 , R_1 , R_2 , R_3 , R_4 , R_5 , R_6 , and M are as defined in claim 1, with the proviso that when Y and Y_1 both represent $-CH_2CH_2CH_2-$, R_1 and R_5 are both phenyl and R_2 and R_6 are both hydrogen, R_3 , R_4 , R_9 and R_{10} are not all $-CH_2CH_2OH$.

6. A process for the preparation of a mixture of compounds of formulae (1a), (1b) and (1c), according to claim 1, by reacting, under known reaction conditions, cyanuric chloride, successively, in any desired sequence, with each of 4,4'-diaminostilbene-2,2'-disulphonic acid, amino compounds of formulae R_1R_2NH and R_5R_6NH or mixtures thereof and compounds of formulae R_3R_4YXH and $R_7R_8Y_1X_1H$ or mixtures thereof, X , X_1 , Y , Y_1 , R_1 , R_2 , R_3 , R_4 , R_5 , R_6 , R_7 and R_8 being as defined in claim 1.

7. A process for the preparation of a compound of formula (2), according to claim 4, by reacting, under known reaction conditions, cyanuric chloride, successively, in any desired sequence, with each of 4,4'-diaminostilbene-2,2'-disulphonic acid, an amino compound of formula R_1R_2NH , an amino compound of formula R_5R_6NH , a hydroxy compound of formula R_3R_4NYOH and a compound of formula $R_7R_8NY_1X_1H$, X_1 , Y , Y_1 , R_1 , R_2 , R_3 , R_4 , R_5 , R_6 , R_7 and R_8 being as defined in claim 1.

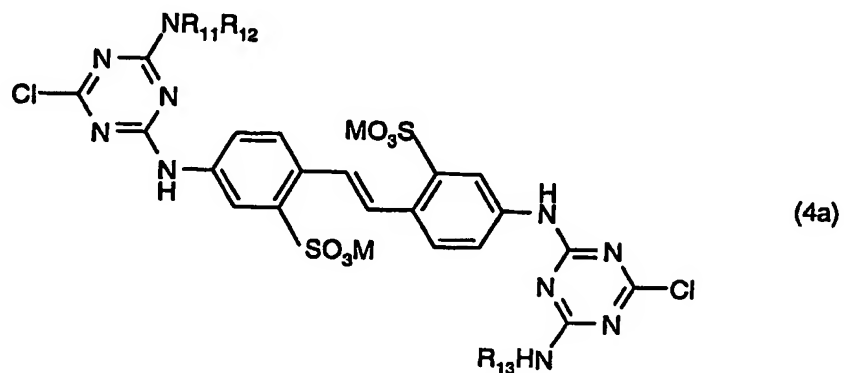
8. A process for the preparation of a compound of formula (3), according to claim 5, by reacting, under known reaction conditions, cyanuric chloride, successively, in any desired sequence, with each of 4,4'-diaminostilbene-2,2'-disulphonic acid, an amino compound of

- 70 -

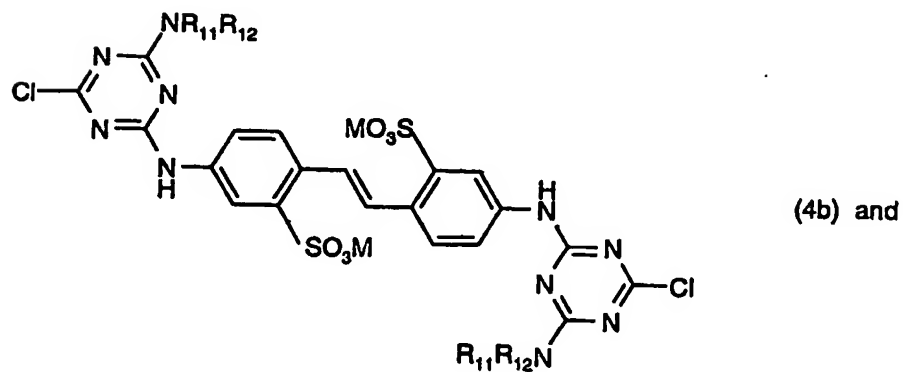
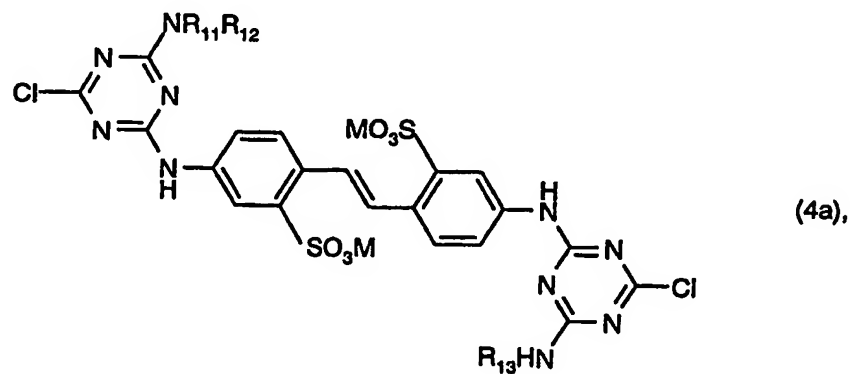
formula R_1R_2NH , an amino compound of formula R_5R_6NH , an amino compound of formula $R_3R_4NYNH_2$ and a compound of formula $R_9R_{10}NY_1NH_2$,

Y , Y_1 , R_1 , R_2 , R_3 , R_4 , R_5 , R_6 , R_9 and R_{10} being as defined in claims 1 and 5.

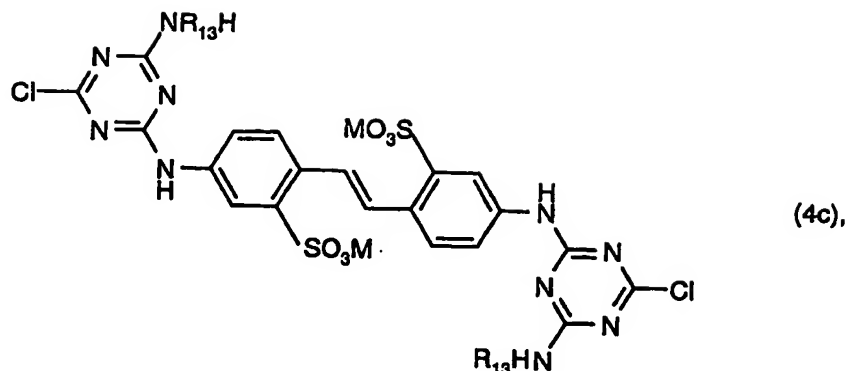
9. A compound of the formula



or a mixture comprising compounds of the formulae



- 71 -



in which

R_{11} and R_{12} , each independently of each other, represent hydrogen, C_1 - C_4 alkyl, C_2 - C_4 hydroxyalkyl, C_1 - C_4 alkoxy C_1 - C_4 alkyl or, together with the nitrogen atom to which they are attached, complete a morpholino-, piperidino- or pyrrolidino-ring, R_{13} represents phenyl, which is unsubstituted or substituted by halogen, C_1 - C_4 alkoxy, C_1 - C_4 alkyl or sulphonamido and M represents hydrogen, an alkaline or alkaline earth metal, ammonium or alkyl ammonium.

10. A process for the preparation of a compound of formula (4a) or a mixture of compounds of formulae (4a), (4b) and (4c), according to claim 9, by reacting, under known reaction conditions, cyanuric chloride, successively, in any desired sequence, with each of 4,4'-diaminostilbene-2,2'-disulphonic acid, an amino compound of formula $R_{11}R_{12}NH$ and an amino compound of formula $R_{13}NH_2$ or with a mixture of amino compounds $R_{11}R_{12}NH$ and $R_{13}NH_2$, R_{11} , R_{12} and R_{13} being as previously defined in claim 9.

11. Use of the compound of formula (4a), according to claim 9, for the preparation of a compound of formula (2), according to claim 3, in which, in formula (2), R_1 and R_2 each independently of each other, represent hydrogen, C_1 - C_4 alkyl, C_2 - C_4 hydroxyalkyl, C_1 - C_4 alkoxy C_1 - C_4 alkyl or, together with the nitrogen atom to which they are attached, complete a morpholino-, piperidino- or pyrrolidino-ring, R_5 represents phenyl, which is unsubstituted or substituted by halogen, C_1 - C_4 alkoxy, C_1 - C_4 alkyl or sulphonamido, R_6 represents hydrogen and X_1 , Y , Y_1 , R_3 , R_4 , R_7 , R_8 and M are as defined in claim 1; for the preparation of compound of formula (3), according to claim 5, in which, in formula (3), R_1 and R_2 each independently of each other, represent hydrogen, C_1 - C_4 alkyl,

- 72 -

C₂-C₄hydroxyalkyl, C₁-C₄alkoxyC₁-C₄alkyl or, together with the nitrogen atom to which they are attached, complete a morpholino-, piperidino- or pyrrolidino-ring,

R₅ represents phenyl, which is unsubstituted or substituted by halogen, C₁-C₄alkoxy, C₁-C₄alkyl or sulphonamido,

R₈ represents hydrogen and

Y, Y₁, R₃, R₄, R₉, R₁₀, and M are as previously defined in claims 1 and 5 respectively or use of the mixture of compounds of formulae (4a), (4b) and (4c), according to claim 9, for the preparation of a mixture of compounds of formulae (1a), (1b) and (1c), according to claim 1, in which, in formulae (1a), (1b) and (1c),

R₁ and R₂ each independently of each other, represent hydrogen, C₁-C₄alkyl, C₂-C₄hydroxyalkyl, C₁-C₄alkoxyC₁-C₄alkyl or, together with the nitrogen atom to which they are attached, complete a morpholino-, piperidino- or pyrrolidino-ring,

R₅ represents phenyl, which is unsubstituted or substituted by halogen, C₁-C₄alkoxy, C₁-C₄alkyl or sulphonamido,

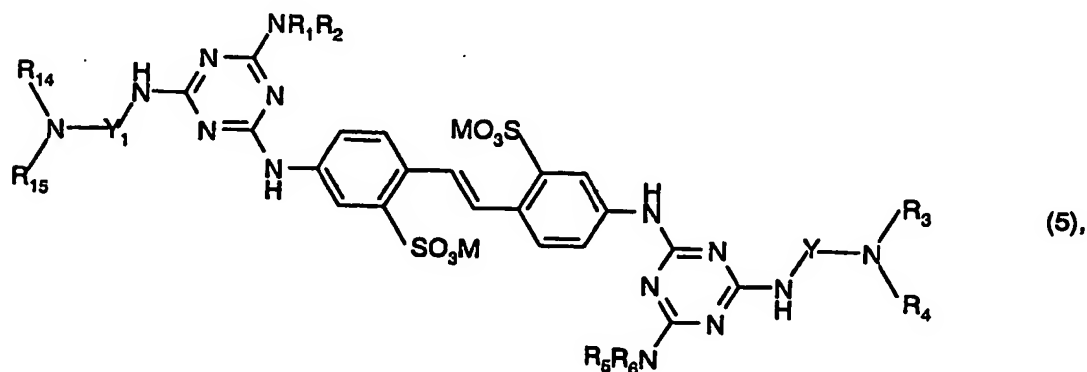
R₈ represents hydrogen and

X, X₁, Y, Y₁, R₃, R₄, R₇, R₈ and M are as defined in claim 1.

12. Use of the mixture of compounds of formulae (1a), (1b) and (1c), according to claim 1, for the fluorescent whitening of paper.

13. Use of the compound of formula (2), according to claim 4, for the fluorescent whitening of paper.

14. Use of the compound of formula



in which

R_{14} and R_{15} , each independently of each other, represent hydrogen, C_1 - C_4 alkyl or C_2 - C_4 hydroxyalkyl and

Y , Y_1 , R_1 , R_2 , R_3 , R_4 , R_5 , R_6 , and M are as defined in claim 1, for the fluorescent whitening of paper.

15. Paper, which has been treated with a fluorescent whitening agent comprising either a mixture of compounds of formulae (1a), (1b) and (1c), according to claim 1, a compound of formula (2), according to claim 4 or a compound of formula (5), according to claim 14.

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(FILE 'HOME' ENTERED AT 09:39:21 ON 17 AUG 2006)

FILE 'HCAPLUS' ENTERED AT 09:39:50 ON 17 AUG 2006

E US20060155124/PN

L1 1 SEA US2006155124/PN

FILE 'REGISTRY' ENTERED AT 09:41:10 ON 17 AUG 2006

L2 82 SEA (100-36-7/BI OR 104-75-6/BI OR 104-78-9/BI OR

L3 STR

L4 50 SEA SSS SAM L3

L5 STR L3

L6 42 SEA SSS SAM L5

L7 8512 SEA SSS FUL L5

SAV L7 HAR315/A

L8 STR L5

L9 28 SEA SUB=L7 SSS SAM L8

L10 586 SEA SUB=L7 SSS FUL L8

SAV L10 HAR315S/A

L11 61 SEA L2 AND L7

L12 40 SEA L2 AND L10

L13 21 SEA L11 NOT L12

L14 STR L8

L15 16 SEA SUB=L7 SSS SAM L14

L16 350 SEA SUB=L7 SSS FUL L14

SAV L16 HAR315S9/A

L17 19 SEA L2 AND L16

L18 2 SEA L13 NOT L17

L19 9 SEA L10 AND MXS/CI

L20 6 SEA L2 AND L19

L21 8 SEA L16 AND MXS/CI

L22 3 SEA L19 NOT L20

L23 7 SEA L2 AND L21

L24 1 SEA L21 NOT L23

FILE 'HCAPLUS' ENTERED AT 12:48:46 ON 17 AUG 2006

L25 137 SEA L10

L26 3 SEA L12

L27 248 SEA L16

L28 55 SEA L17

L29 526349 SEA FLUORESCENT? OR BRIGHT? OR WHITE?

L30 71 SEA L25 AND L29

L31 4863644 SEA MIXT# OR MIXTURE? OR BLEND? OR ADMIX? OR COMMIX?
ORIMMIX? OR INTERMIX? OR COMPOSIT? OR COMPN# OR COMPSN#
OR FORMULAT? OR COMBINAT?

L32 39 SEA L30 AND L31

L33 35 SEA L32 AND (1840-2002)/PY, PRY

L34 33 SEA L33 NOT L26

L35 134 SEA L27 AND L29

L36 61 SEA L35 AND L31

L37 58 SEA L36 AND (1840-2002)/PY, PRY

L38 50 SEA L37 NOT L33
L39 52 SEA L28 AND L29
L40 26 SEA L39 AND L31
L41 1 SEA L26 AND L40
L42 3 SEA L33 AND L40
L43 0 SEA L26 AND L38
L44 0 SEA L33 AND L38
L45 2 SEA L26 NOT L41
L46 32 SEA L33 NOT L42
L47 29 SEA L38 NOT L40
L48 3 SEA L19
L49 2 SEA L21
L50 4 SEA L48 OR L49
L51 2 SEA L50 AND (L41 OR L42 OR L45 OR L46 OR L40 OR L47)
L52 2 SEA L50 NOT L51
D SCA

FILE 'REGISTRY' ENTERED AT 14:00:50 ON 17 AUG 2006

L53 13 SEA L10 AND 3<=NC
L54 7 SEA L53 AND M/ELS
L55 17 SEA L16 AND 3<=NC

FILE 'HCAPLUS' ENTERED AT 14:03:02 ON 17 AUG 2006

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L57 4 SEA L55
L58 9 SEA L56 OR L57
L59 3 SEA L58 AND (L41 OR L42 OR L45 OR L46 OR L40 OR L47)
L60 6 SEA L58 NOT L59
L61 5 SEA L58 NOT (L59 OR L52)

=> d que stat l10

L5 STR

N~Cb~Ak~Cb~N SO3H7
1 2 3 4 5

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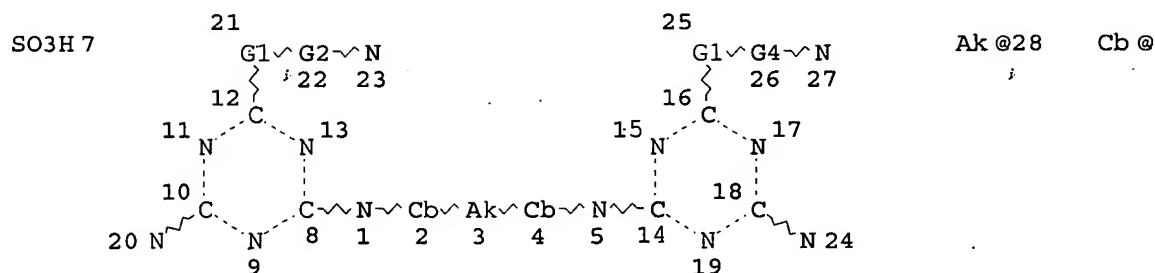
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GGCAT IS UNS AT 2
GGCAT IS UNS AT 3
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DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

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NUMBER OF NODES IS 6

STEREO ATTRIBUTES: NONE

L7 8512 SEA FILE=REGISTRY SSS FUL L5
L8 STR



Ak~Q~Ak
@29 30 @32

Ak~Q~Q~Ak
@33 34 35 @36

Ak @37

Cb @38

Ak~Q~Ak
@39 40 @41

Ak~Q~Q~Ak
@42 43 44 @45

Page 1-A

31

Page 1-B

VAR G1=O/N

VAR G2=28/31/29-21 32-23/33-21 36-23

VAR G4=37/38/39-25 41-27/42-25 45-27

NODE ATTRIBUTES:

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NSPEC IS RC AT 23

NSPEC IS RC AT 24

NSPEC IS RC AT 27

CONNECT IS E2 RC AT 3

CONNECT IS E2 RC AT 28

CONNECT IS E2 RC AT 29

CONNECT IS E2 RC AT 32

CONNECT IS E2 RC AT 33

CONNECT IS E2 RC AT 36

CONNECT IS E2 RC AT 37

CONNECT IS E2 RC AT 39

CONNECT IS E2 RC AT 41

CONNECT IS E2 RC AT 42

CONNECT IS E2 RC AT 45

DEFAULT MLEVEL IS ATOM

GGCAT IS UNS AT 2

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GGCAT IS UNS AT 4

DEFAULT ECLEVEL IS LIMITED

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NUMBER OF NODES IS 44

STEREO ATTRIBUTES: NONE

L10 586 SEA FILE=REGISTRY SUB=L7 SSS FUL L8

100.0% PROCESSED 4750 ITERATIONS

586 ANSWERS

MEI HUANG EIC1700 REM4B28 571-272-3952

08/17/2006

SEARCH TIME: 00.00.02

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L5 STR

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DEFAULT ECLEVEL IS LIMITED

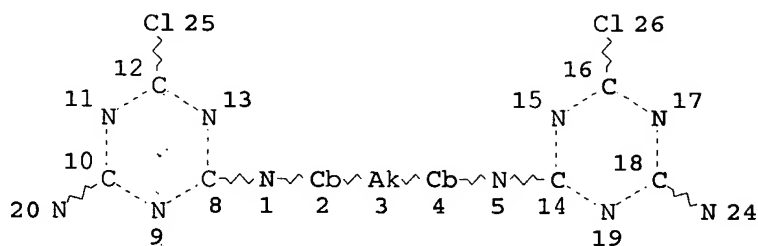
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STEREO ATTRIBUTES: NONE

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SO3H 7



NODE ATTRIBUTES:

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NUMBER OF NODES IS 22

STEREO ATTRIBUTES: NONE

L16 350 SEA FILE=REGISTRY SUB=L7 SSS FUL L14

100.0% PROCESSED 540 ITERATIONS

SEARCH TIME: 00.00.01

350 ANSWERS

=> fil hcap

FILE 'HCAPLUS' ENTERED AT 14:08:19 ON 17 AUG 2006

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L41 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:453320 HCAPLUS

DOCUMENT NUMBER: 141:25251

TITLE: Amphoteric fluorescent

whitening agents for paper

INVENTOR(S): Scheffler, Goetz; Rohringer, Peter; Fletcher, Ian John

PATENT ASSIGNEE(S): Ciba Specialty Chemicals Holdings Inc., Switz.

SOURCE: PCT Int. Appl., 74 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004046293	A2	20040603	WO 2003-EP12583	20031111
WO 2004046293	C1	20040826		
WO 2004046293	A3	20041014		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
CA 2504256	AA	20040603	CA 2003-2504256	20031111
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EP 1563049	A2	20050817	EP 2003-779887	20031111
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK			
CN 1711348	A	20051221	CN 2003-80103529	20031111
BR 2003016400	A	20060221	BR 2003-16400	20031111

The current Application

JP 2006506492 T2 20060223 JP 2004-552569 200311
11
EP 1674616 A2 20060628 EP 2006-111552 200311
11
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,
PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, SK
US 2006155124 A1 20060713 US 2005-534315 200505
09
PRIORITY APPLN. INFO.: EP 2002-405998 A 200211
19
EP 2003-779887 A3 200311
11
WO 2003-EP12583 W 200311
11

OTHER SOURCE(S): MARPAT 141:25251
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

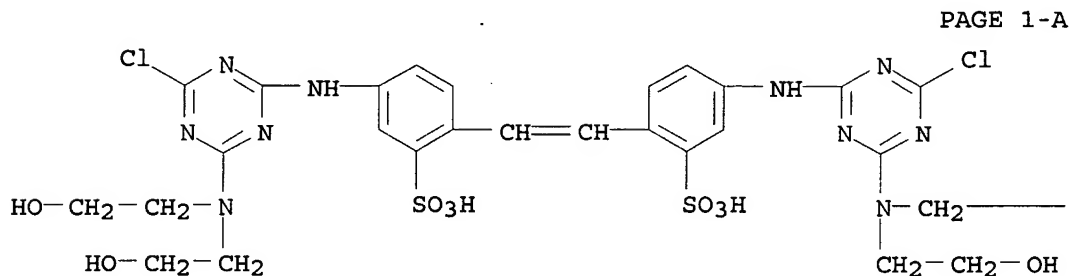
AB Novel bis-triazinylaminostilbene amphoteric fluorescent whitening agents, comprising both individual components and mixts. thereof, are used as fluorescent whitening agents for the fluorescent whitening of paper. Thus, a fluorescent whitening agent comprises a mixt. of compds. of the formula I, II and III in which A* represents a group of the formula IV, wherein A represents -X-Y-NR₃R₄ and C is -NR₁R₂ and B* represents a group of the formula V, VI and VII wherein D represents -NR₅R₆ and E represents -X₁-Y₁-NR₇R₈, whereby X and X₁ each, independently of each other, represent -O- or -NH-, Y and Y₁ each, independently of each other, represent a straight-chain C₂-C₈ alkylene or branched C₃-C₈ alkylene chain, which may be interrupted by one or two nitrogen, oxygen or sulfur atoms or represent a 5- or 6-membered cycloaliph. ring, R₁, R₂, R₅ and R₆ each independently of each other, represent hydrogen, C₁-C₈ alkyl, C₂-C₄ hydroxyalkyl, C₁-C₄ alkoxy C₁-C₄ alkyl, Ph, which is unsubstituted or substituted by halogen, C₁-C₄ alkoxy, C₁-C₄ alkyl or sulfonamido, or R₁ and R₂ and /or R₅ and R₆, together with the nitrogen atom to which they are attached, complete a morpholino- piperidino- or pyrrolidino-ring, R₃, R₄, R₇ and R₈, each independently of each other, represent hydrogen, C₁-C₄ alkyl, C₂-C₄ hydroxyalkyl or R₃ and R₄ and/or R₇ and R₈, together with the nitrogen atom to which they are attached, complete a morpholino-, piperidino- or pyrrolidino-ring and M represents hydrogen, an alk. or alk. earth metal, ammonium or alkylammonium. A process for their prepn. and intermediates useful for their prepn. are discussed.

IT 4028-32-4 13281-93-1 37138-23-1
52205-59-1 52576-51-9 213910-64-6

RL: RCT (Reactant); RACT (Reactant or reagent)
(amphoteric fluorescent whitening agents for
paper)

RN 4028-32-4 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[bis(2-hydroxyethyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



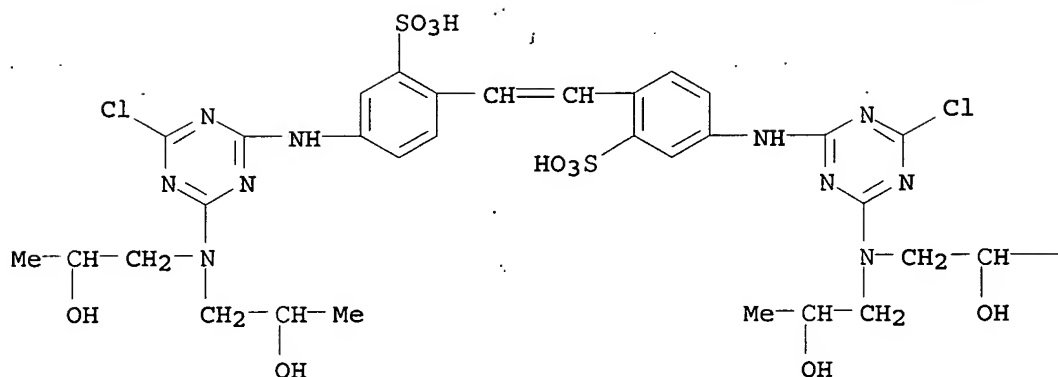
PAGE 1-B

—CH₂—OH

RN 13281-93-1 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[bis(2-hydroxypropyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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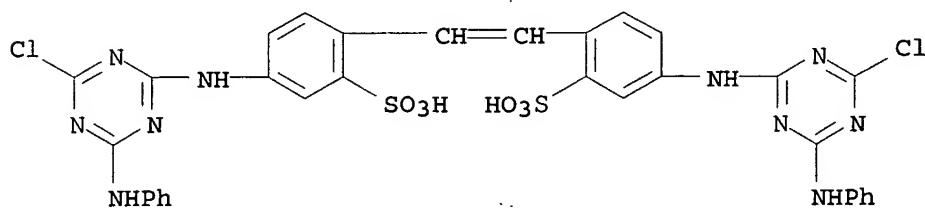


● 2 Na

PAGE 1-B

— Me

RN 37138-23-1 HCAPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

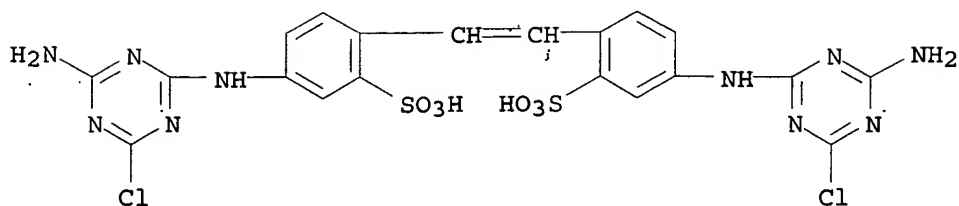


● 2 Na

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MEI HUANG EIC1700 REM4B28 571-272-3952

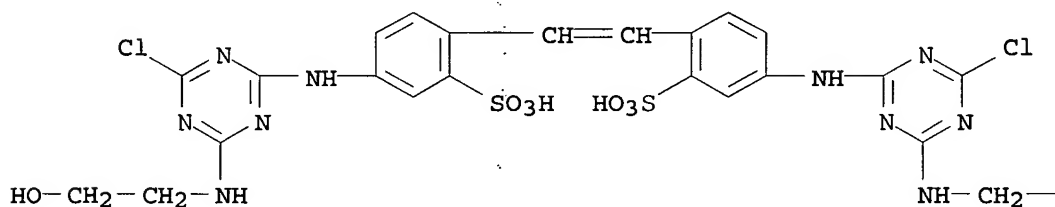
08/17/2006



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 (CA INDEX NAME)

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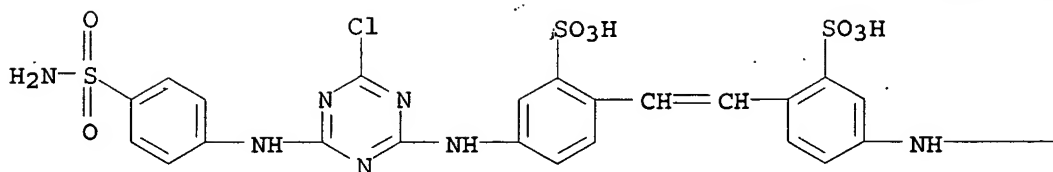
● 2 Na

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—CH₂—OH

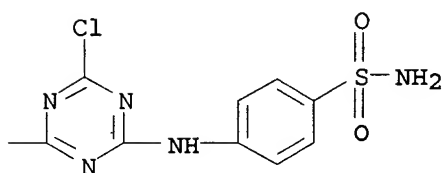
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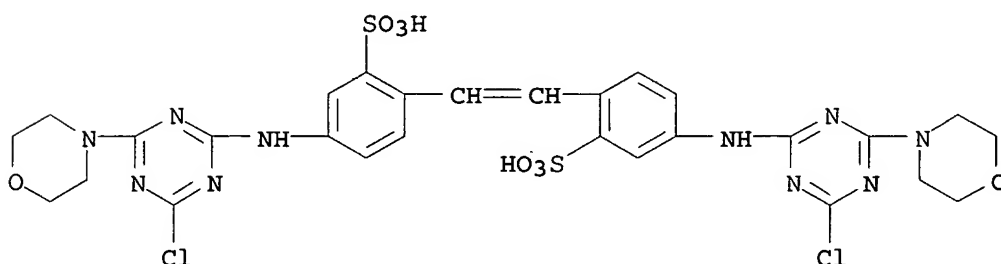


● 2 Na

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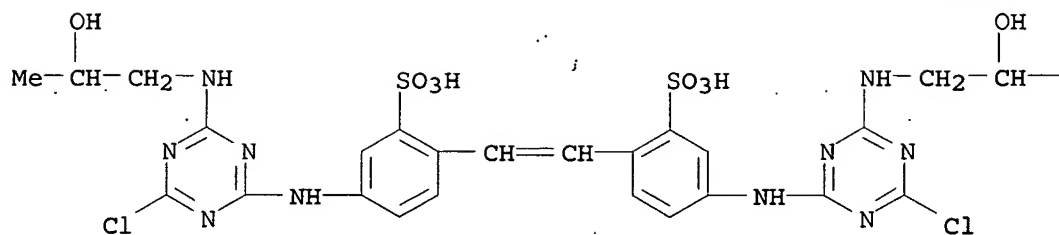
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 697768-42-6P 697768-49-3P 697768-51-7P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
 RACT (Reactant or reagent)
 (amphoteric fluorescent whitening agents for
 paper)
 RN 28950-66-5 HCAPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(4-
 morpholinyl)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA
 INDEX NAME)



● 2 Na

RN 602304-27-8 HCAPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-[(2-
 hydroxypropyl)amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI)
 (CA INDEX NAME)

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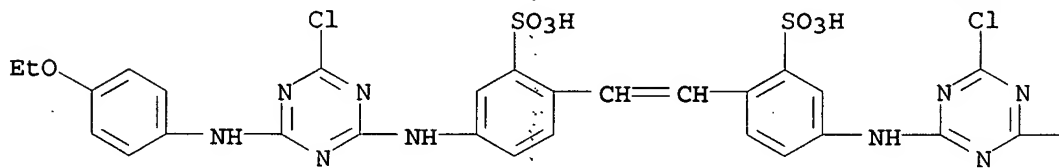
● 2 Na

PAGE 1-B

— Me

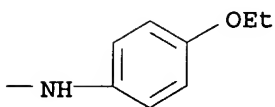
RN 697768-38-0 HCAPLUS
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 (CA INDEX NAME)

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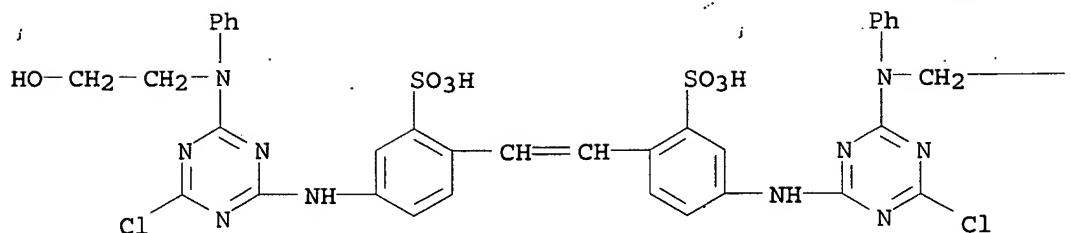
● 2 Na

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RN 697768-42-6 HCAPLUS
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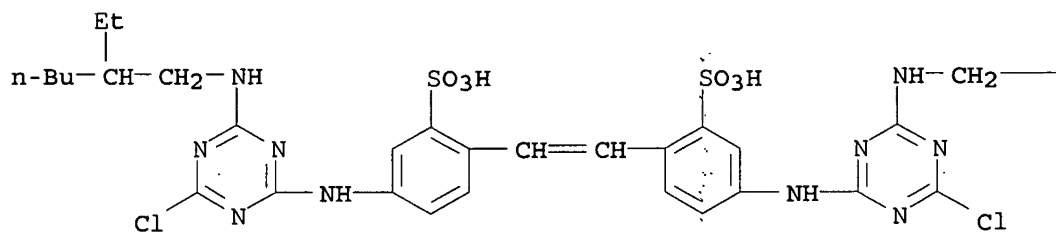
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—CH₂—OH

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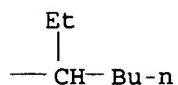
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-[(2-ethylhexyl)amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI)
(CA INDEX NAME)

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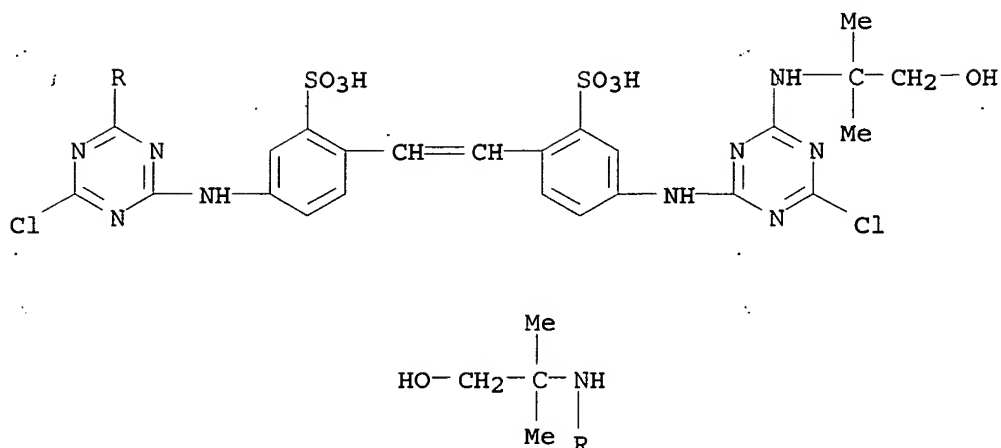
● 2 Na

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RN 697768-51-7 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-[(2-hydroxy-1,1-dimethylethyl)amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



● 2 Na

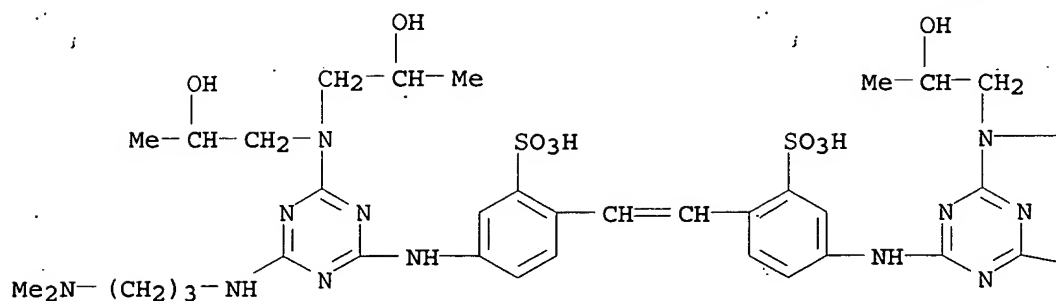
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 697768-50-6P 697768-52-8P 697768-54-0P

RL: SPN (Synthetic preparation); PREP (Preparation)
 (amphoteric fluorescent whitening agents for
 paper)

RN 697767-94-5 HCAPLUS

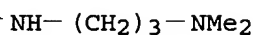
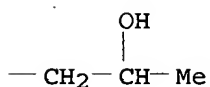
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[bis(2-hydroxypropyl)amino]-6-[[3-(dimethylamino)propyl]amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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● 2 Na

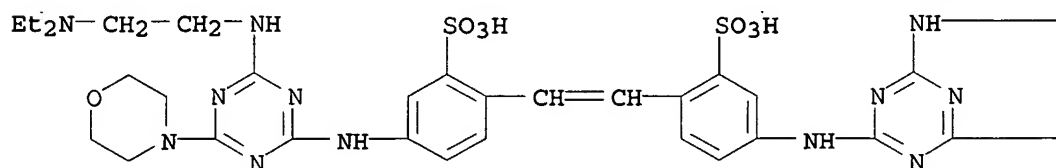
PAGE 1-B



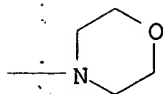
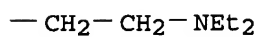
RN 697767-95-6 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[2-(diethylamino)ethyl]amino]-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino]-(9CI) (CA INDEX NAME)

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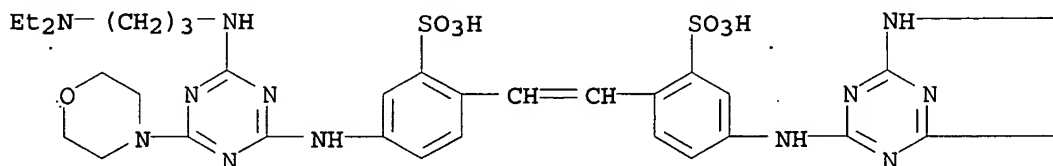


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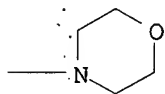
RN 697767-96-7 HCAPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(diethylamino)propyl]amino]-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

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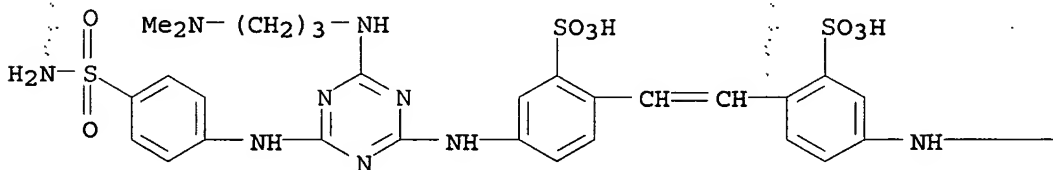
PAGE 1-B

— (CH₂)₃—NEt₂

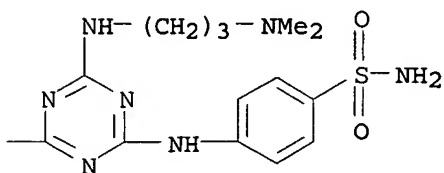


RN 697767-98-9 HCAPLUS
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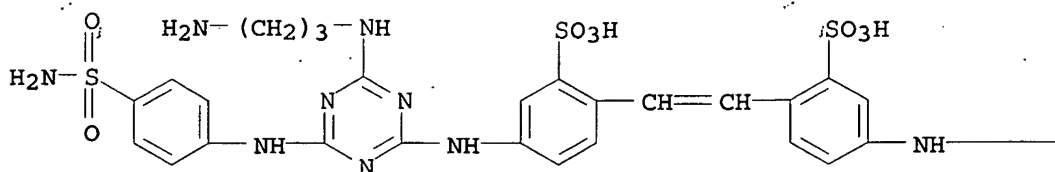


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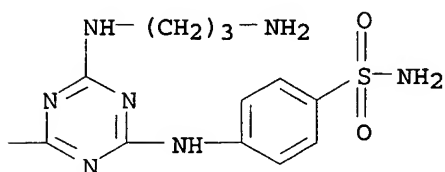


RN 697768-00-6 HCAPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(aminopropyl)amino]-6-[[4-(aminosulfonyl)phenyl]amino]-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

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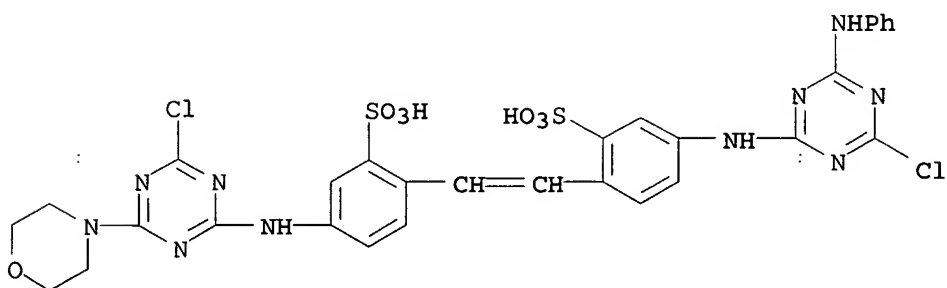
RN 697768-04-0 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino]-, disodium salt, mixt. with 5-[[4-chloro-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino]-2-[2-[4-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-2-sulfophenyl]ethenyl]benzenesulfonic acid disodium salt and 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]benzenesulfonic acid] disodium salt (9CI) (CA INDEX NAME)

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CRN 602304-28-9

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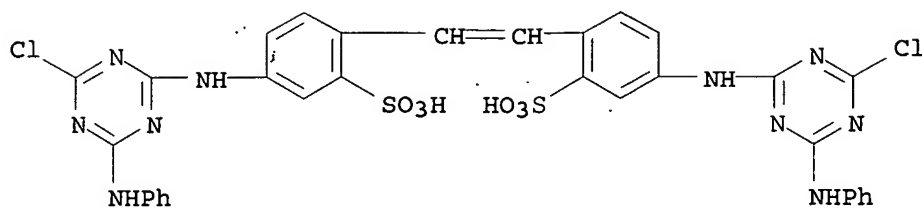


● 2 Na

CM 2

CRN 37138-23-1

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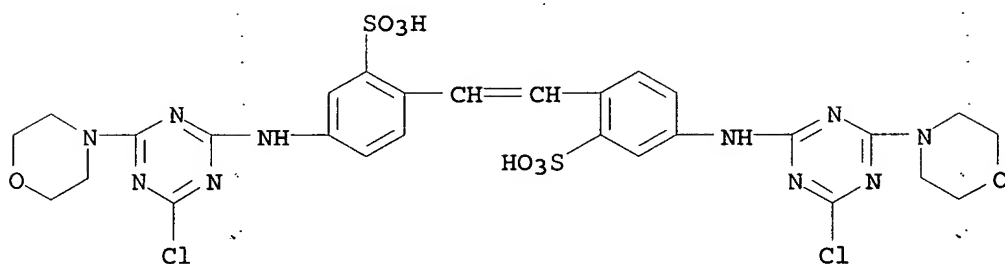


● 2 Na

CM 3

CRN 28950-66-5

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● 2 Na

RN 697768-06-2 HCAPLUS

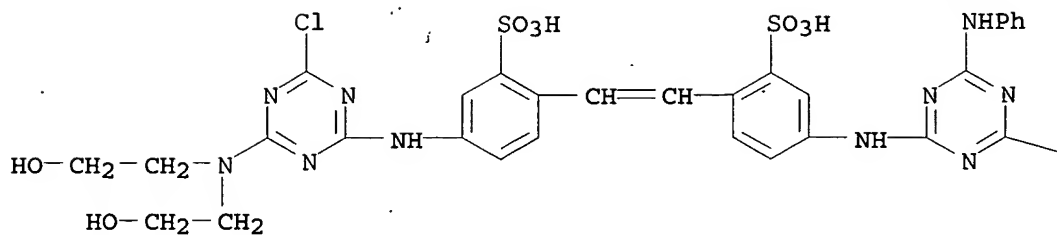
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[bis(2-hydroxyethyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]-, disodium salt, mixt. with 5-[[4-[bis(2-hydroxyethyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]-2-[2-[4-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-2-sulfohenyl]ethenyl]benzenesulfonic acid disodium salt and 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]benzenesulfonic acid] disodium salt (9CI) (CA INDEX NAME)

CM 1

CRN 697768-05-1

CMF C30 H28 Cl2 N10 O8 S2 . 2 Na

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● 2 Na

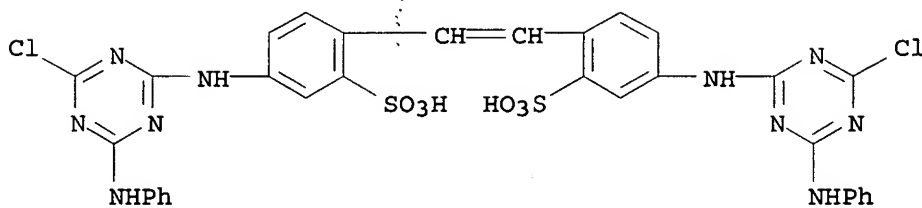
PAGE 1-B

- Cl

CM 2

CRN 37138-23-1

CMF C32 H24 Cl2 N10 O6 S2 . 2 Na



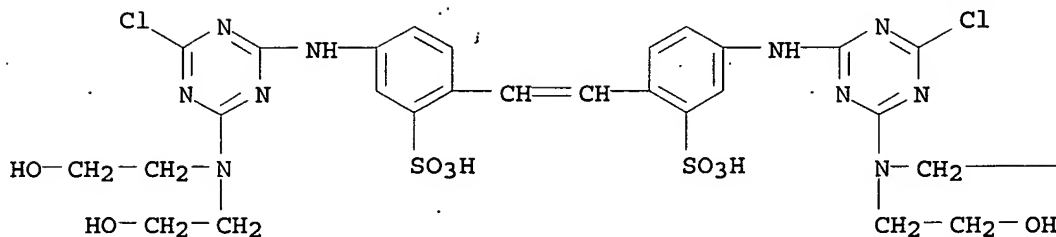
● 2 Na

CM 3

CRN 4028-32-4

CMF C28 H32 Cl2 N10 O10 S2 . 2 Na

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● 2 Na

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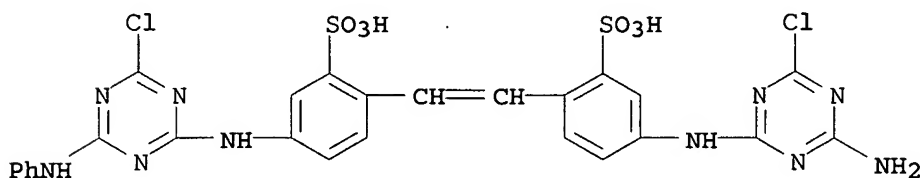
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CRN 697768-08-4

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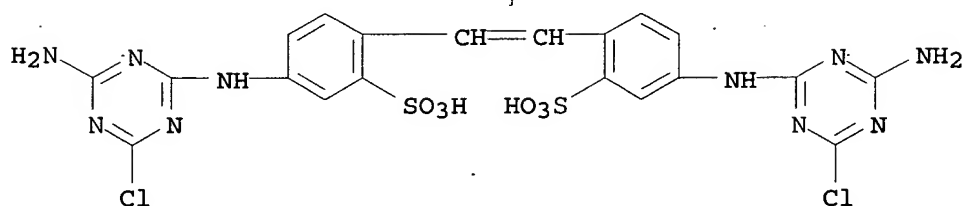


● 2 Na

CM 2

CRN 52205-59-1

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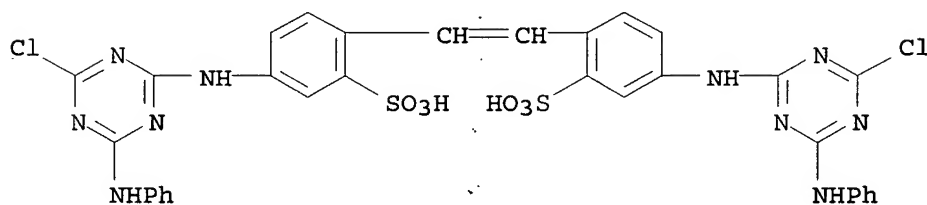


● 2 Na

CM 3

CRN 37138-23-1

CMF C32 H24 Cl2 N10 O6 S2 . 2 Na



● 2 Na

RN 697768-11-9 HCAPLUS

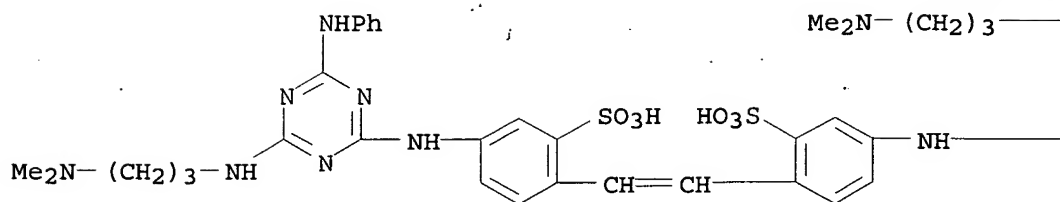
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(dimethylamino)propyl]amino]-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino]-, mixt with 5-[[4-[[3-(dimethylamino)propyl]amino]-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino]-2-[[4-[[4-[[3-(dimethylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-2-sulfophenyl]ethenyl]benzenesulfonic acid and 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(dimethylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]benzenesulfonic acid] (9CI) (CA INDEX NAME)

CM 1

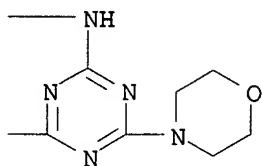
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PAGE 1-B

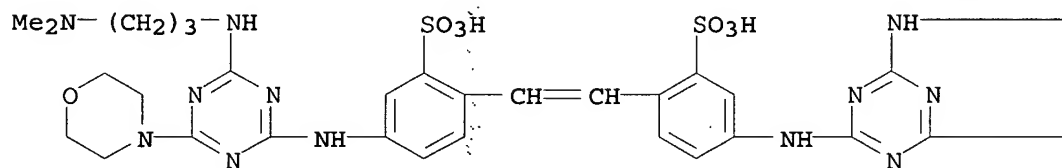


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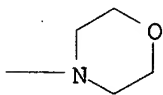
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CMF C38 H54 N14 O8 S2

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PAGE 1-B

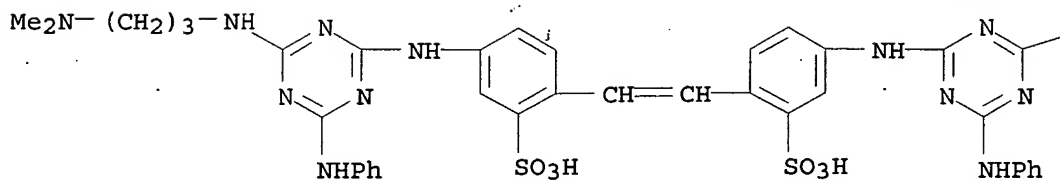
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CM 3

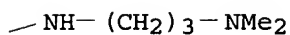
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CMF C42 H50 N14 O6 S2

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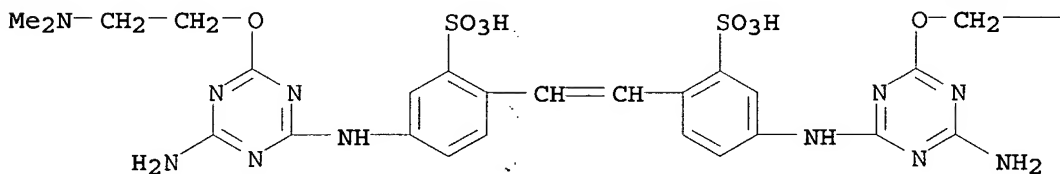
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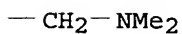
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CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-amino-6-[2-(dimethylamino)ethoxy]-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

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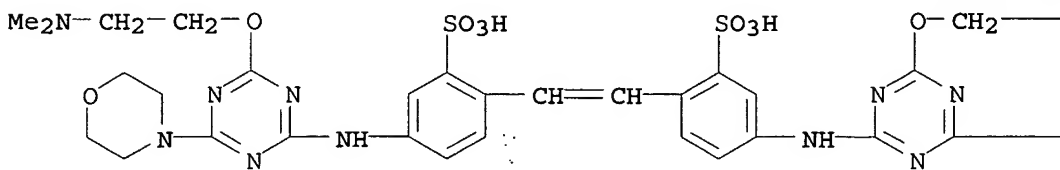
PAGE 1-B



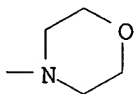
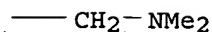
RN 697768-13-1 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[2-(dimethylamino)ethoxy]-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

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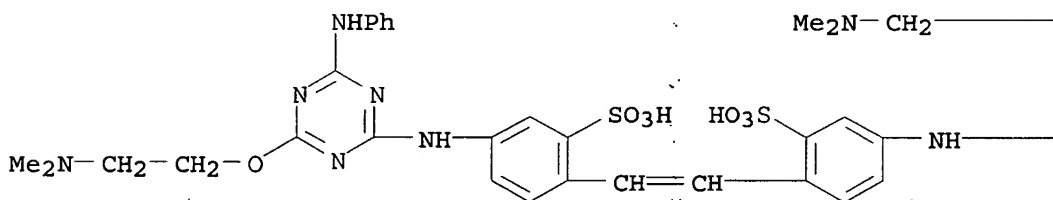
RN 697768-15-3 HCAPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[2-(dimethylamino)ethoxy]-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino]-, mixt. with 5-[[4-[2-(dimethylamino)ethoxy]-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino]-2-[2-[4-[[4-[2-(dimethylamino)ethoxy]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-2-sulfohenyl]ethenyl]benzenesulfonic acid and 2,2'-(1,2-ethenediyl)bis[5-[[4-[2-(dimethylamino)ethoxy]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]benzenesulfonic acid] (9CI) (CA INDEX NAME)

CM 1

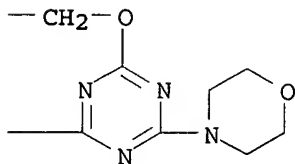
CRN 697768-14-2

CMF C38 H46 N12 O9 S2

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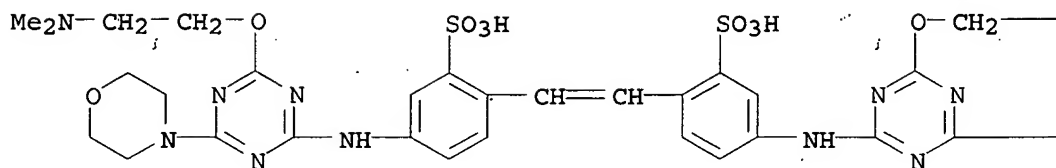


CM 2

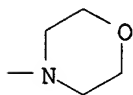
CRN 697768-13-1

CMF C36 H48 N12 O10 S2

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PAGE 1-B

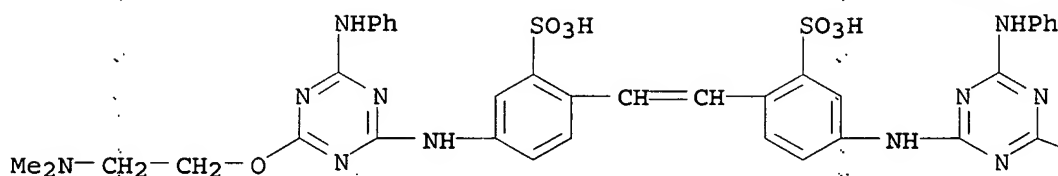
—CH₂—NMe₂

CM: 3

CRN 697768-07-3

CMF C40 H44 N12 O8 S2

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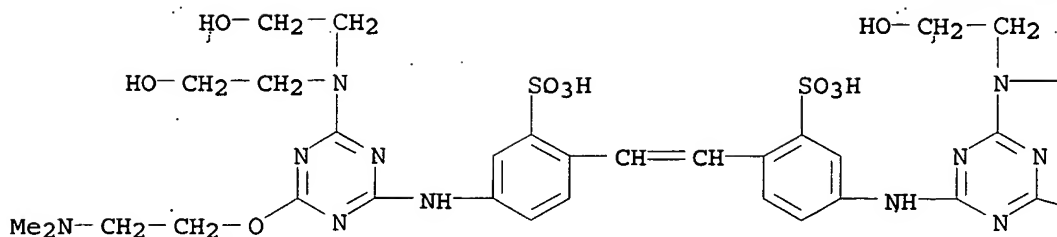
PAGE 1-B

—O—CH₂—CH₂—NMe₂

RN 697768-16-4 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[bis(2-hydroxyethyl)amino]-6-[2-(dimethylamino)ethoxy]-1,3,5-triazin-2-yl]amino]-(9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

—CH₂—CH₂—OHO—CH₂—CH₂—NMe₂

RN 697768-18-6 HCAPLUS

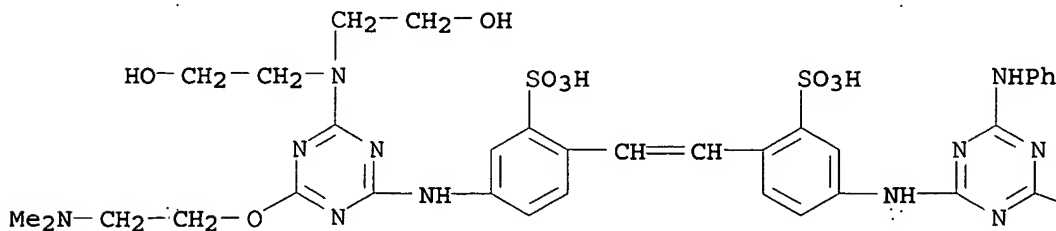
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[bis(2-hydroxyethyl)amino]-6-[2-(dimethylamino)ethoxy]-1,3,5-triazin-2-yl]amino]-, mixt. with 5-[[4-[bis(2-hydroxyethyl)amino]-6-[2-(dimethylamino)ethoxy]-1,3,5-triazin-2-yl]amino]-2-[2-[4-[4-[2-(dimethylamino)ethoxy]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-2-sulfophenyl]ethenyl]benzenesulfonic acid and 2,2'-(1,2-ethenediyl)bis[5-[[4-[2-(dimethylamino)ethoxy]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]benzenesulfonic acid] (9CI) (CA INDEX NAME)

CM 1

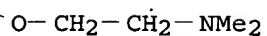
CRN 697768-17-5

CMF C38 H48 N12 O10 S2

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PAGE 1-B

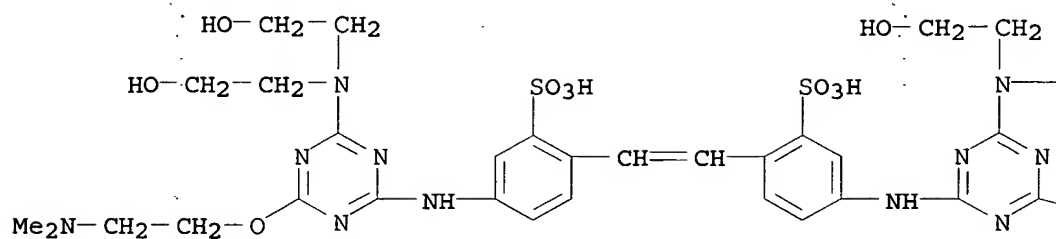


CM 2

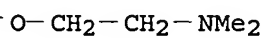
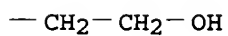
CRN 697768-16-4

CMF C36 H52 N12 O12 S2

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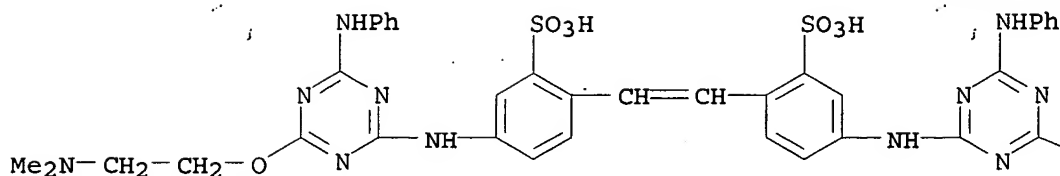


CM 3

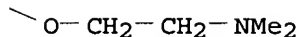
CRN 697768-07-3

CMF C40 H44 N12 O8 S2

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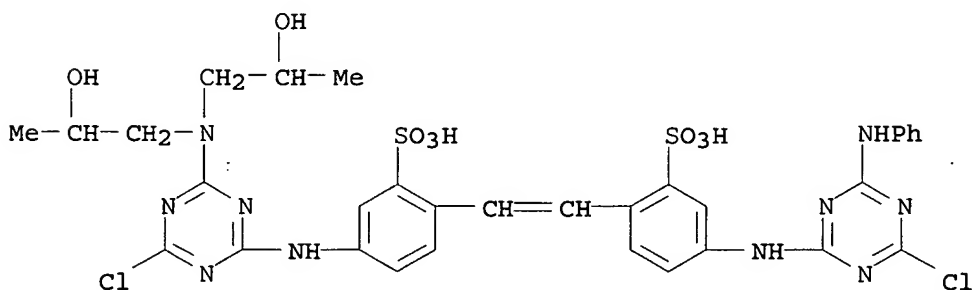
RN 697768-20-0 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[bis(2-hydroxypropyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]-, disodium salt, compd. with 5-[[4-[bis(2-hydroxypropyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]-2-[2-[4-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-2-sulfophenyl]ethenyl]benzenesulfonic acid disodium salt and 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]benzenesulfonic acid] disodium salt (9CI) (CA INDEX NAME)

CM 1

CRN 697768-19-7

CMF C32 H32 Cl2 N10 O8 S2 . 2 Na

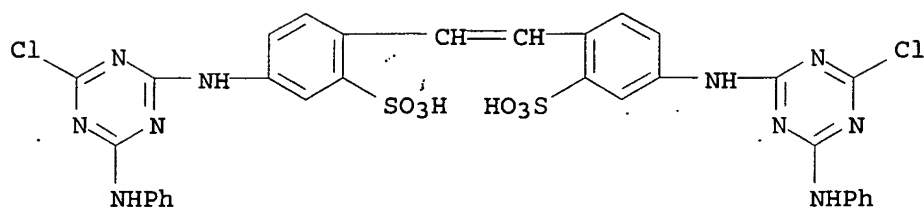


● 2 Na

CM 2

CRN 37138-23-1

CMF C32 H24 Cl2 N10 O6 S2 . 2 Na



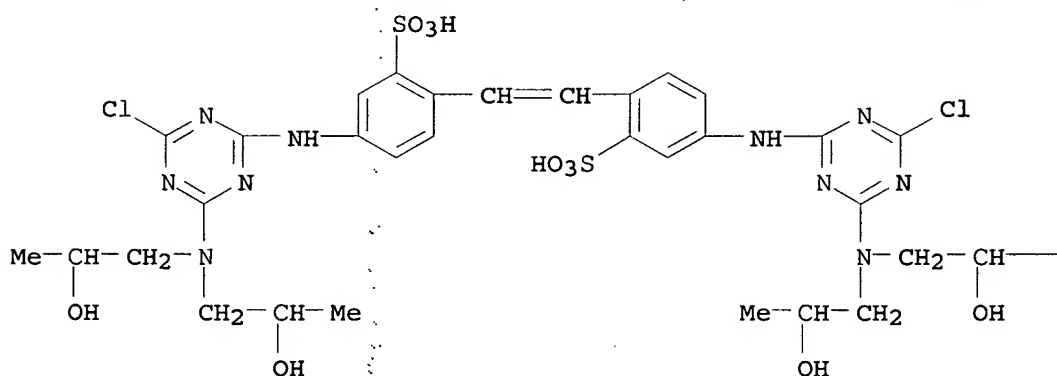
● 2 Na

CM 3

CRN 13281-93-1

CMF C32 H40 Cl2 N10 O10 S2 . 2 Na

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● 2 Na

PAGE 1-B

— Me

RN 697768-22-2 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-[(2-

MEI HUANG EIC1700 REM4B28 571-272-3952

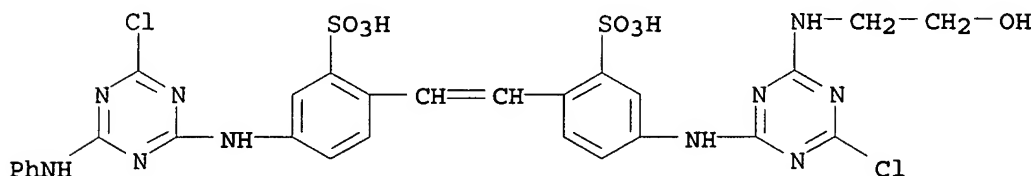
08/17/2006

hydroxyethyl)amino]-1,3,5-triazin-2-yl]amino]-, disodium salt, mixt. with 5-[[4-chloro-6-[(2-hydroxyethyl)amino]-1,3,5-triazin-2-yl]amino]-2-[2-[4-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-2-sulfophenyl]ethenyl]benzenesulfonic acid disodium salt and 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]benzenesulfonic acid] disodium salt (9CI) (CA INDEX NAME)

CM 1

CRN 697768-21-1

CMF C28 H24 Cl2 N10 O7 S2 . 2 Na

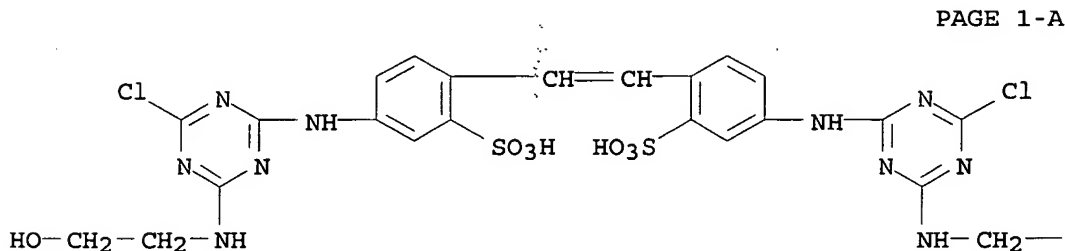


● 2 Na

CM 2

CRN 52576-51-9

CMF C24 H24 Cl2 N10 O8 S2 . 2 Na



● 2 Na

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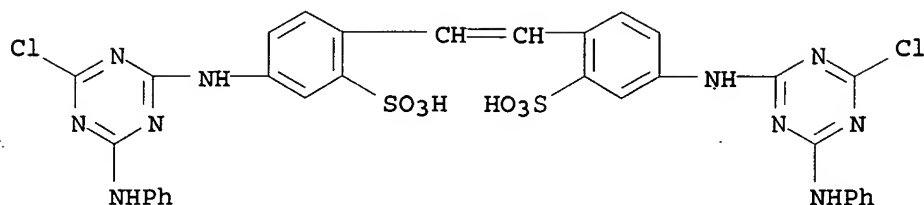
PAGE 1-B

— CH₂— OH

CM 3

CRN 37138-23-1

CMF C32 H24 Cl2 N10 O6 S2 . 2 Na

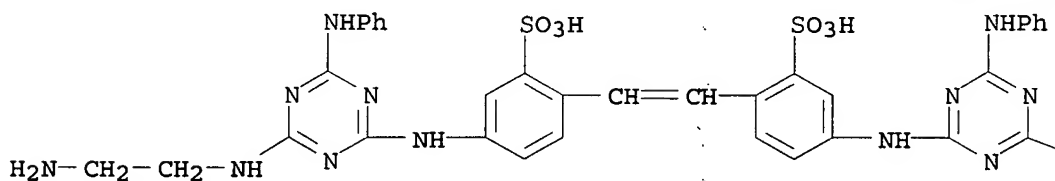


● 2 Na

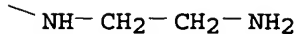
RN 697768-24-4 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[(2-aminoethyl)amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]- (9CI)
(CA INDEX NAME)

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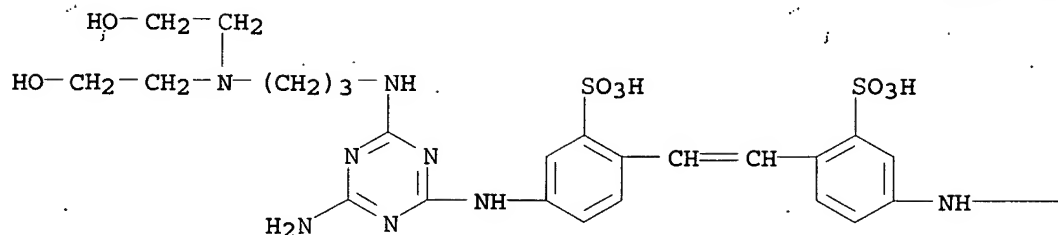
PAGE 1-B



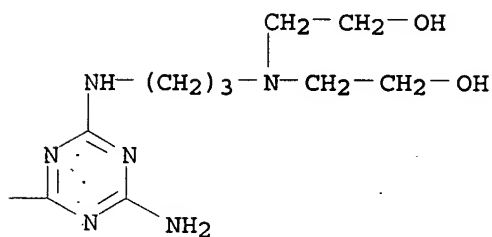
RN 697768-25-5 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-amino-6-[[3-[bis(2-hydroxyethyl)amino]propyl]amino]-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

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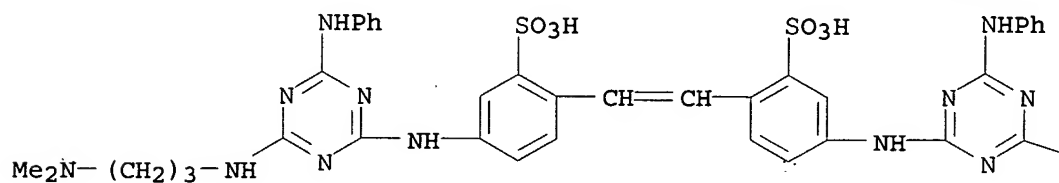
RN 697768-28-8 HCAPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[bis(2-hydroxyethyl)amino]-6-[[3-(dimethylamino)propyl]amino]-1,3,5-triazin-2-yl]amino]-, disodium salt, mixt. with 5-[[4-[bis(2-hydroxyethyl)amino]-6-[[3-(dimethylamino)propyl]amino]-1,3,5-triazin-2-yl]amino]-2-[2-[4-[[4-[[3-(dimethylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-2-sulfophenyl]ethenyl]benzenesulfonic acid disodium salt and 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(dimethylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]benzenesulfonic acid] disodium salt (9CI) (CA INDEX NAME)

CM 1

CRN 697768-27-7

CMF C42 H50 N14 O6 S2 . 2 Na

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● 2 Na

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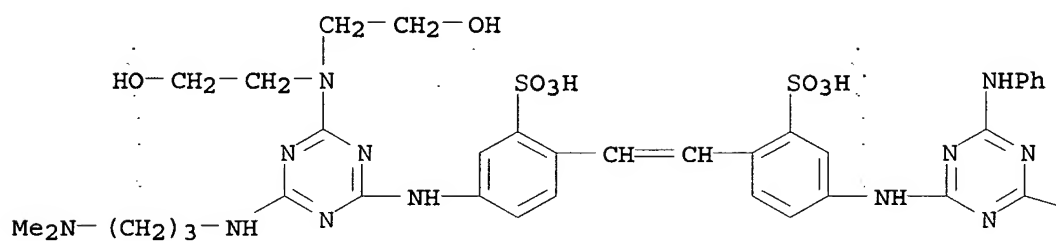
 $\text{NH}-(\text{CH}_2)_3-\text{NMe}_2$

CM 2

CRN 697768-26-6

CMF C40 H54 N14 O8 S2 . 2 Na

PAGE 1-A



● 2 Na

PAGE 1-B

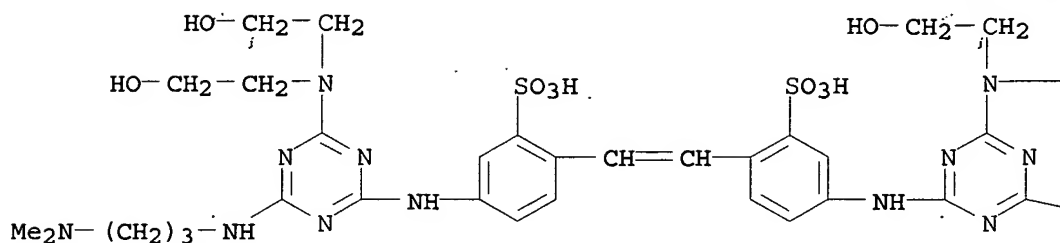
 $\text{NH}-(\text{CH}_2)_3-\text{NMe}_2$

CM 3

CRN 697767-93-4

CMF C38 H58 N14 O10 S2 . 2 Na

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● 2 Na

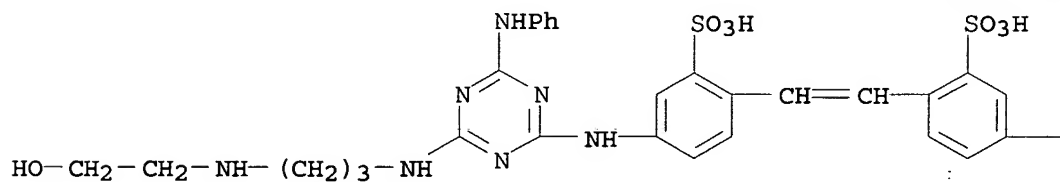
PAGE 1-B

—CH₂—CH₂—OH—NH—(CH₂)₃—NMe₂

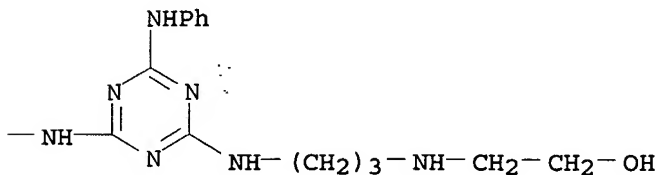
RN 697768-29-9 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-[(2-hydroxyethyl)amino]propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

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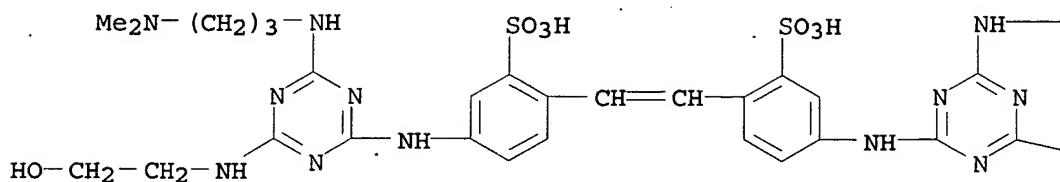


RN 697768-30-2 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(dimethylamino)propyl]amino]-6-[(2-hydroxyethyl)amino]-1,3,5-triazin-

2-yl]amino]- (9CI) (CA INDEX NAME)

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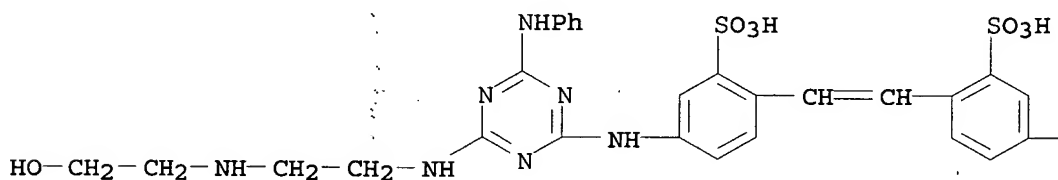
PAGE 1-B

— (CH₂)₃—NMe₂—NH—CH₂—CH₂—OH

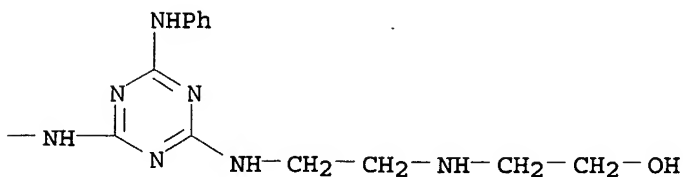
RN 697768-31-3 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[2-[(2-hydroxyethyl)amino]ethyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

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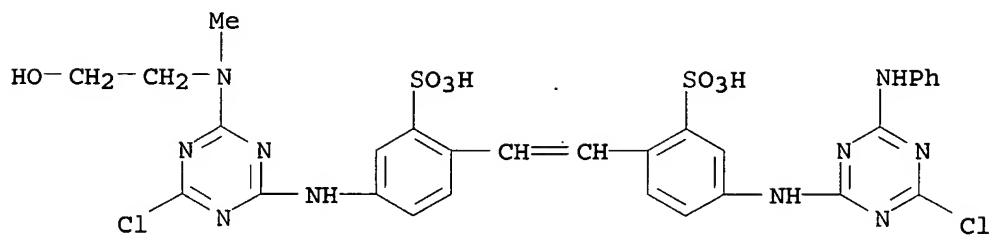
RN 697768-33-5 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-[(2-hydroxyethyl)methylamino]-1,3,5-triazin-2-yl]amino]-, disodium salt, mixt. with 5-[[4-chloro-6-[(2-hydroxyethyl)methylamino]-1,3,5-triazin-2-yl]amino]-2-[2-[4-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-2-sulfophenyl]ethenyl]benzenesulfonic acid disodium salt and 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]benzenesulfonic acid] disodium salt (9CI) (CA INDEX NAME)

CM 1

CRN 697768-32-4

CMF C29 H26 Cl2 N10 O7 S2 . 2 Na

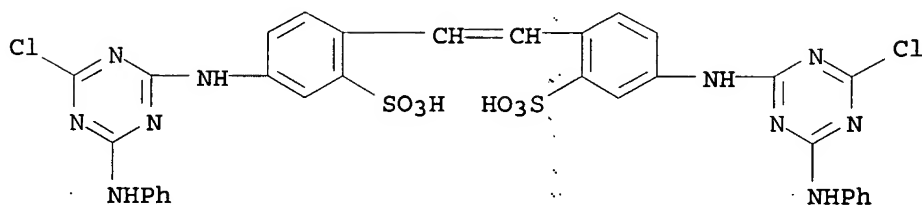


● 2 Na

CM 2

CRN 37138-23-1

CMF C32 H24 Cl2 N10 O6 S2 . 2 Na



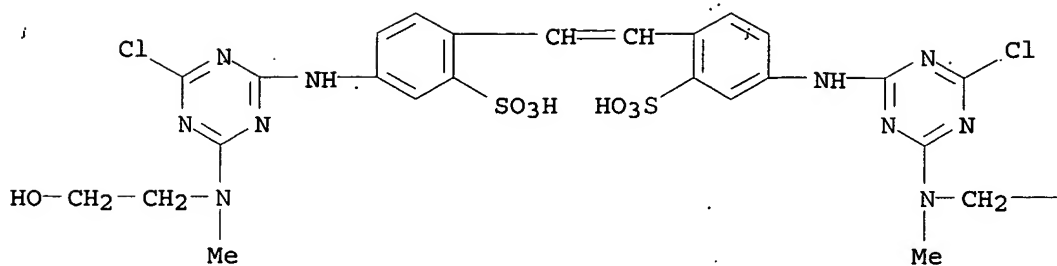
● 2 Na

CM 3

CRN 25790-73-2

CMF C26 H28 Cl2 N10 O8 S2 . 2 Na

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● 2 Na

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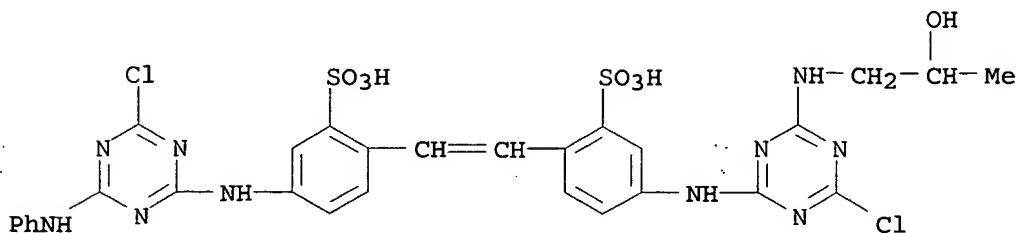
— CH₂—OH

RN 697768-34-6 HCAPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-[(2-hydroxypropyl)amino]-1,3,5-triazin-2-yl]amino]-, disodium salt, mixt. with 5-[[4-chloro-6-[(2-hydroxypropyl)amino]-1,3,5-triazin-2-yl]amino]-2-[2-[4-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-2-sulfophenyl]ethenyl]benzenesulfonic acid disodium salt and 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]benzenesulfonic acid] disodium salt (9CI) (CA INDEX NAME)

CM 1

CRN 602304-31-4

CMF C29 H26 Cl2 N10 O7 S2 . 2 Na



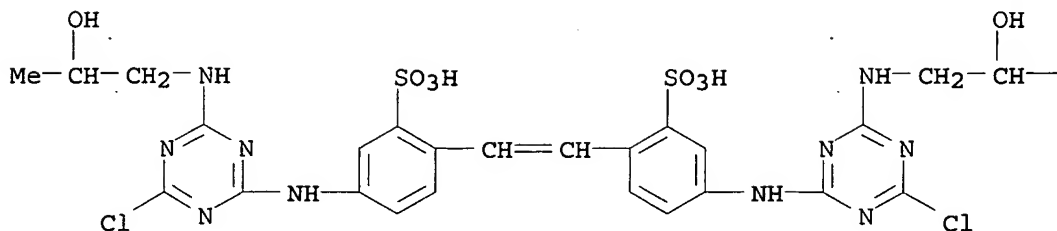
● 2 Na

CM 2

CRN 602304-27-8

CMF C26 H28 Cl2 N10 O8 S2 . 2 Na

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● 2 Na

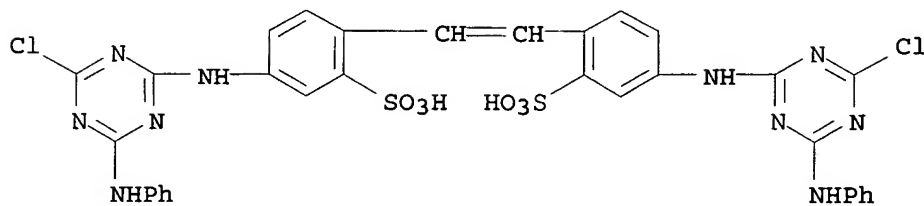
PAGE 1-B

— Me

CM 3

CRN 37138-23-1

CMF C32 H24 Cl2 N10 O6 S2 . 2 Na

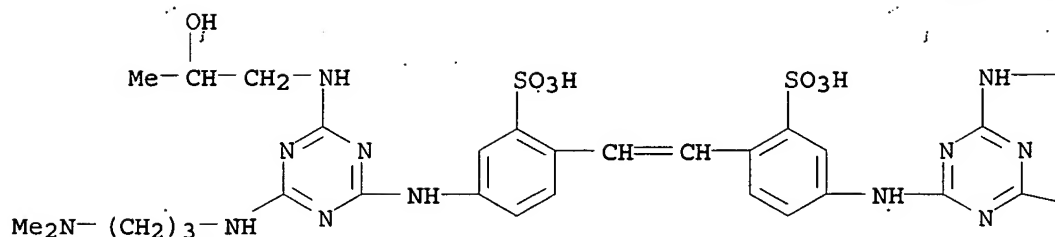


● 2 Na

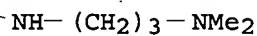
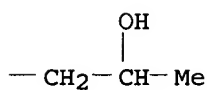
RN 697768-35-7 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(dimethylamino)propyl]amino]-6-[(2-hydroxypropyl)amino]-1,3,5-triazin-2-yl]amino]-(9CI) (CA INDEX NAME)

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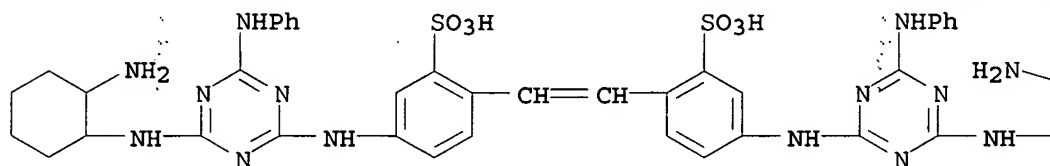
PAGE 1-B



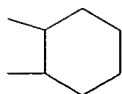
RN 697768-40-4 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[(2-aminocyclohexyl)amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-2-hydroxyethyl]phenylamino]-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

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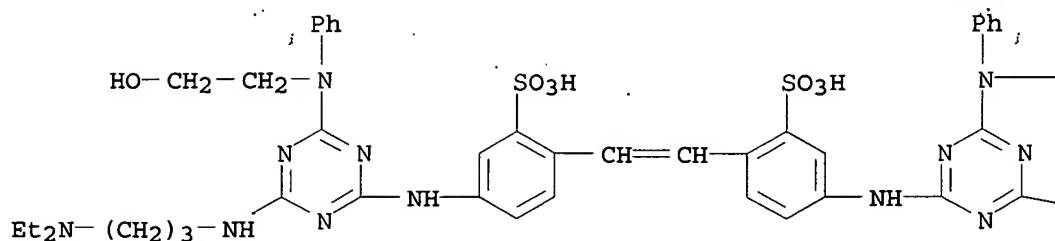
PAGE 1-B



RN 697768-41-5 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(diethylamino)propyl]amino]-6-[(2-hydroxyethyl)phenylamino]-1,3,5-triazin-2-yl]amino]-2-hydroxyethyl]phenylamino]-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

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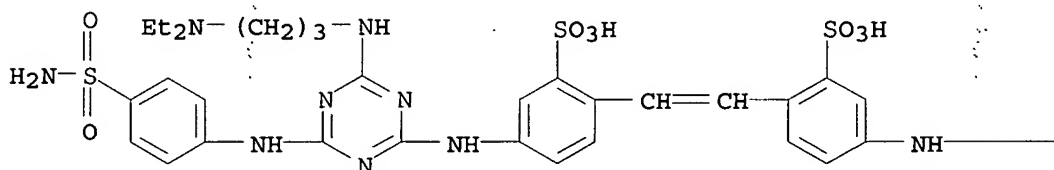
PAGE 1-B

—CH₂—CH₂—OHNH—(CH₂)₃—NEt₂

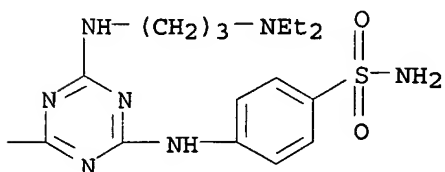
RN 697768-43-7 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[4-(aminosulfonyl)phenyl]amino]-6-[[3-(diethylamino)propyl]amino]-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

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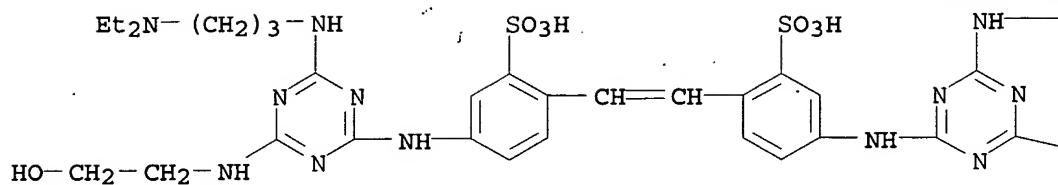
PAGE 1-B



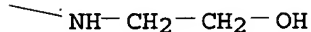
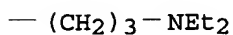
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PAGE 1-A

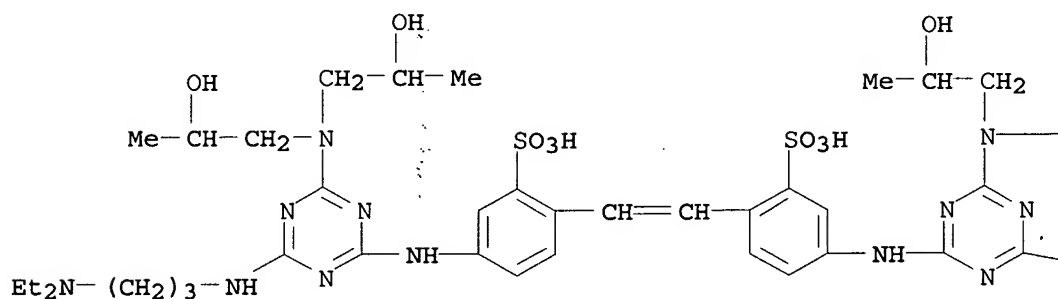


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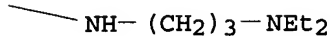
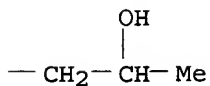


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PAGE 1-A



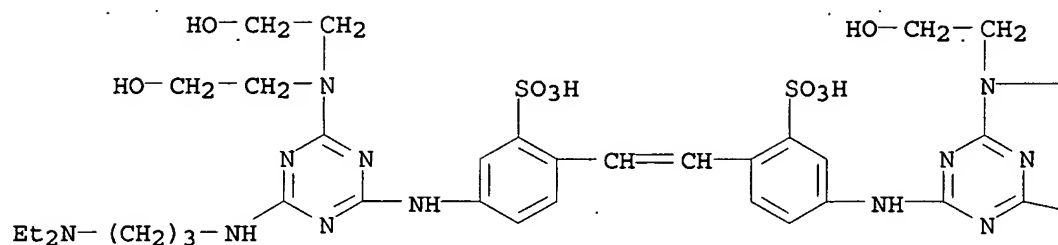
PAGE 1-B



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 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[bis(2-hydroxyethyl)amino]-6-[[3-(diethylamino)propyl]amino]-1,3,5-triazin-

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PAGE 1-A



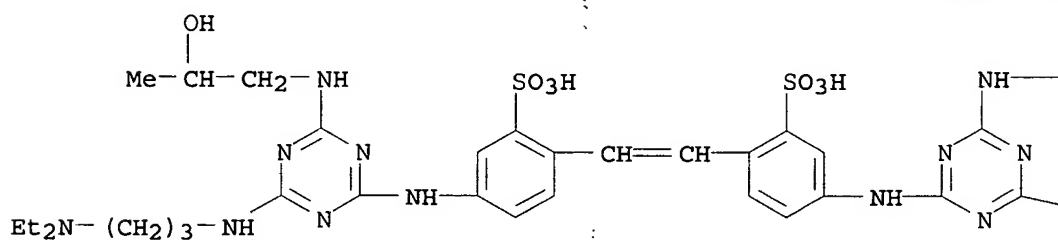
PAGE 1-B

—CH₂—CH₂—OH—NH—(CH₂)₃—NEt₂

RN 697768-47-1 HCAPLUS

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—CH₂—CH—Me
|
OH—NH—(CH₂)₃—NEt₂

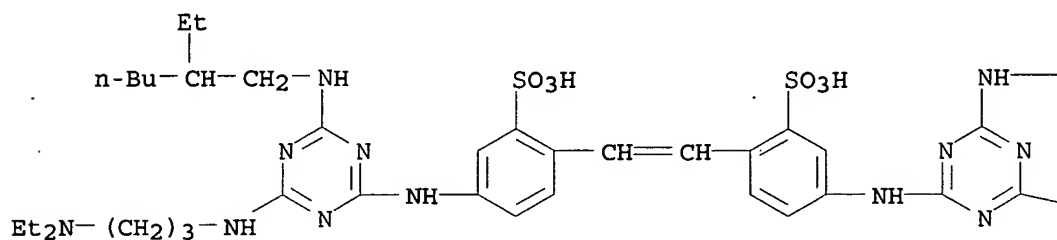
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MEI HUANG EIC1700 REM4B28 571-272-3952

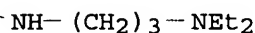
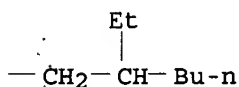
08/17/2006

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PAGE 1-A



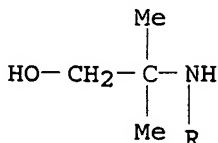
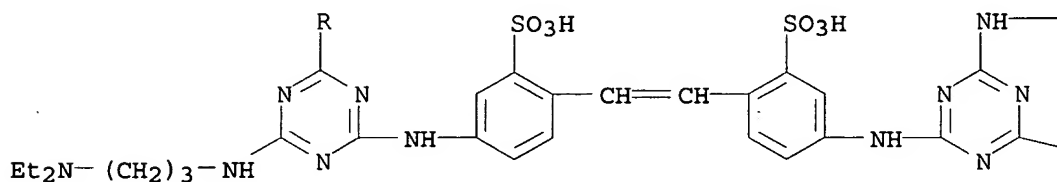
PAGE 1-B



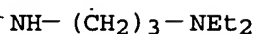
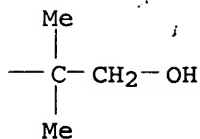
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PAGE 1-A

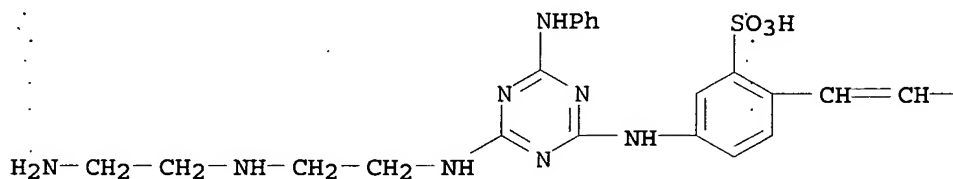


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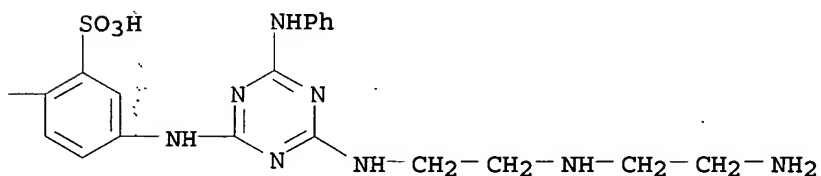


RN 697768-52-8 HCAPLUS
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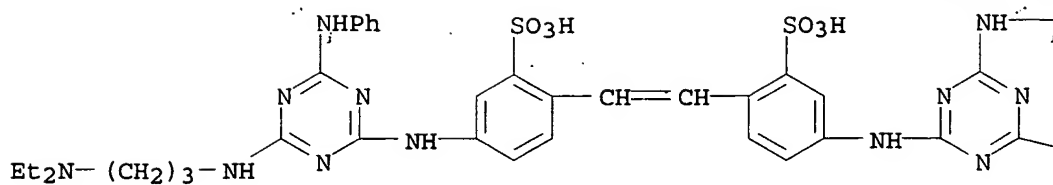


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 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(diethylamino)propyl]amino]-6-[(2-hydroxyethyl)amino]-1,3,5-triazin-2-yl]amino]-, mixt. with 5-[[4-[[3-(diethylamino)propyl]amino]-6-[(2-hydroxyethyl)amino]-1,3,5-triazin-2-yl]amino]-2-[2-[4-[[4-[[3-(diethylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-2-sulfophenyl]ethenyl]benzenesulfonic acid and 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(diethylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]benzenesulfonic acid] (9CI) (CA INDEX NAME)

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CRN 697768-53-9
 CMF C42 H58 N14 O7 S2

PAGE 1-A



PAGE 1-B

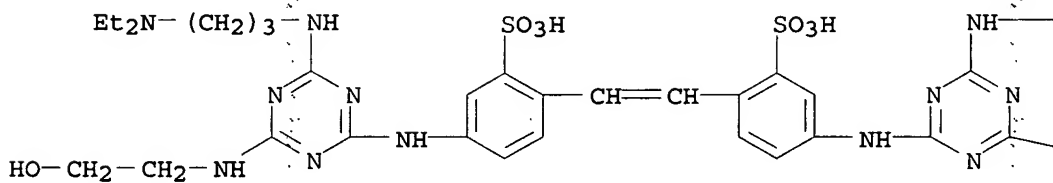
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CM 2

CRN 697768-44-8

CMF C38 H58 N14 O8 S2

PAGE 1-A



PAGE 1-B

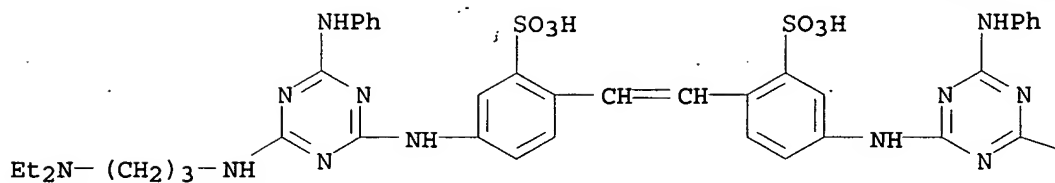
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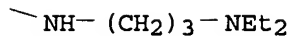
CRN 697767-97-8

CMF C46 H58 N14 O6 S2

PAGE 1-A



PAGE 1-B



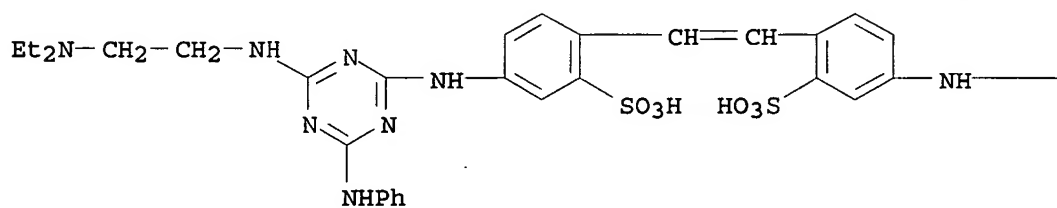
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RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (amphoteric fluorescent whitening agents for paper)

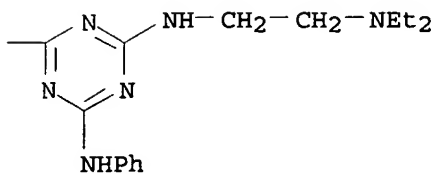
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CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[2-(diethylamino)ethyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-
 (9CI) (CA INDEX NAME)

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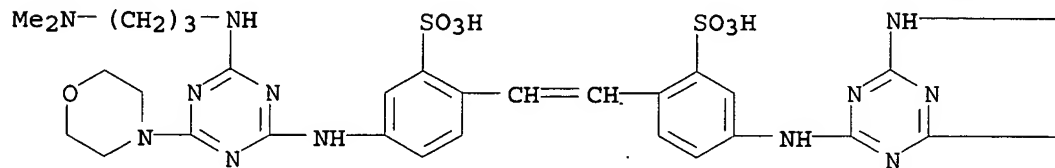
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MEI HUANG EIC1700 REM4B28 571-272-3952

08/17/2006

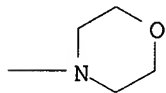
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PAGE 1-A



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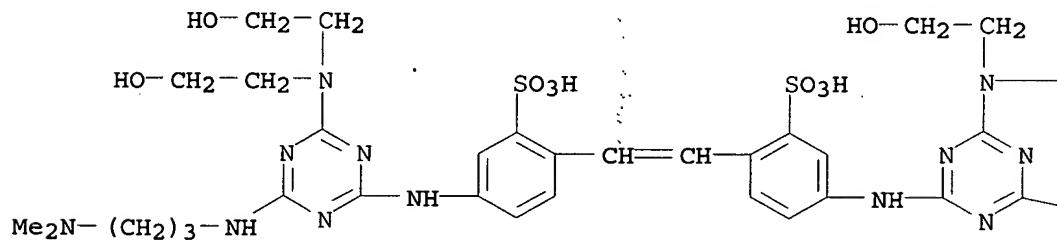
— (CH₂)₃—NMe₂



RN 697767-93-4 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[bis(2-hydroxyethyl)amino]-6-[[3-(dimethylamino)propyl]amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



● 2 Na

PAGE 1-B

— CH₂—CH₂—OH

— NH— (CH₂)₃—NMe₂

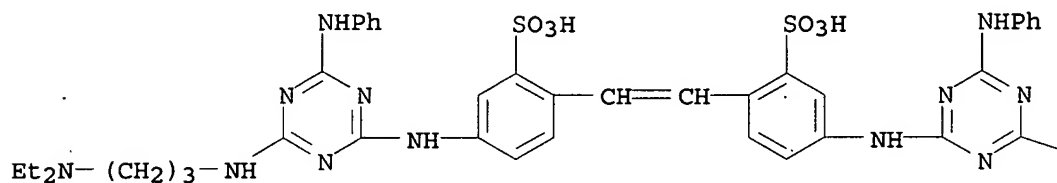
RN 697767-97-8 HCAPLUS

MEI HUANG EIC1700 REM4B28 571-272-3952

08/17/2006

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[(3-(diethylamino)propyl)amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

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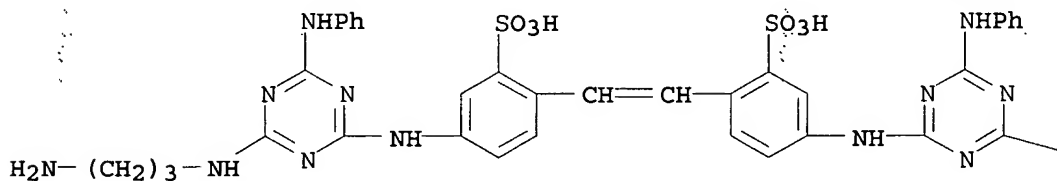
PAGE 1-B

NH- (CH₂)₃ - NEt₂

RN 697767-99-0 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[(3-aminopropyl)amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

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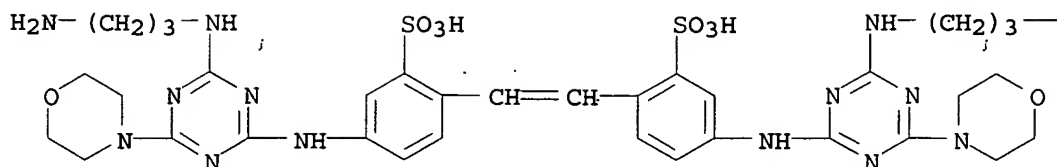
PAGE 1-B

NH- (CH₂)₃ - NH₂

RN 697768-01-7 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[(3-aminopropyl)amino]-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

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—NH₂

RN 697768-03-9 HCAPLUS

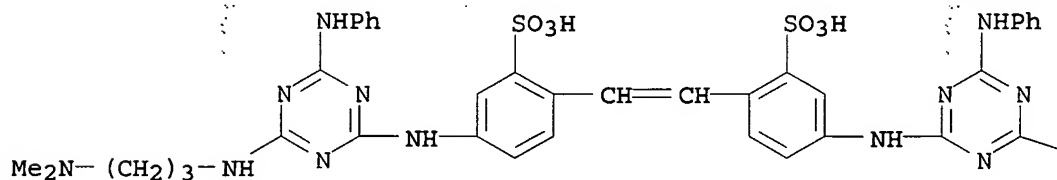
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[(3-aminopropyl)amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, mixt. with 5-[[4-[(3-aminopropyl)amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-2-[2-[4-[[4-[[3-(dimethylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-2-sulfophenyl]ethenyl]benzenesulfonic acid and 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(dimethylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]benzenesulfonic acid] (9CI) (CA INDEX NAME)

CM 1

CRN 697768-02-8

CMF C40 H46 N14 O6 S2

PAGE 1-A



PAGE 1-B

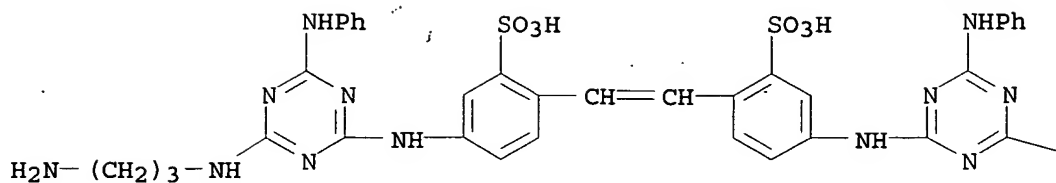
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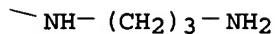
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CMF C38 H42 N14 O6 S2

PAGE 1-A



PAGE 1-B

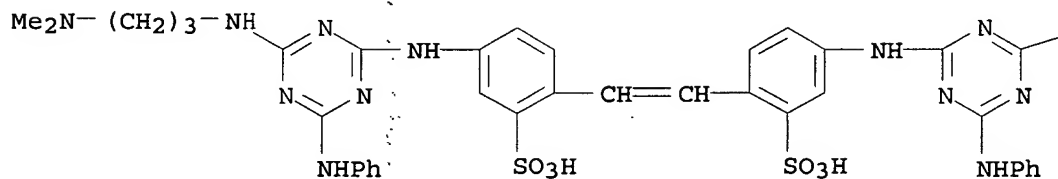


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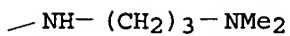
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PAGE 1-A



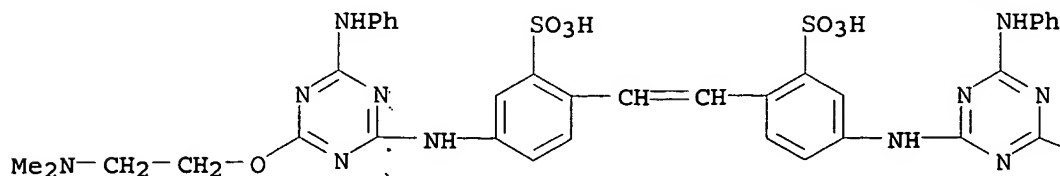
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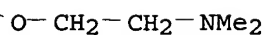
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(9CI) (CA INDEX NAME)

PAGE 1-A



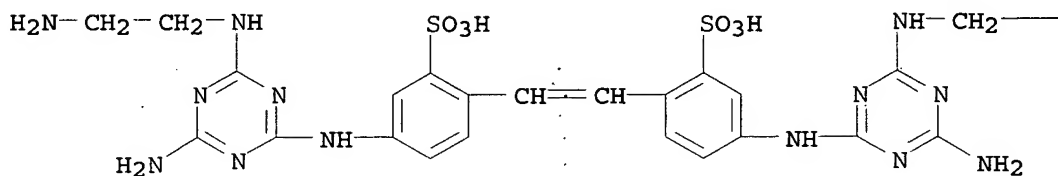
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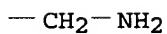
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PAGE 1-A



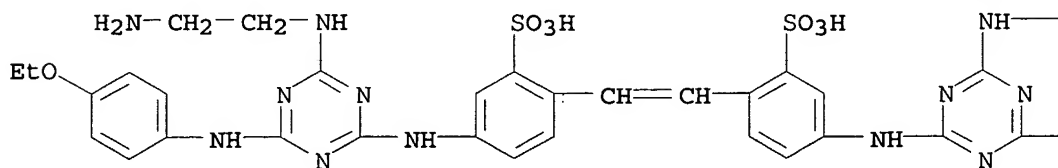
PAGE 1-B



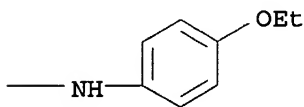
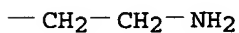
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PAGE 1-A



PAGE 1-B

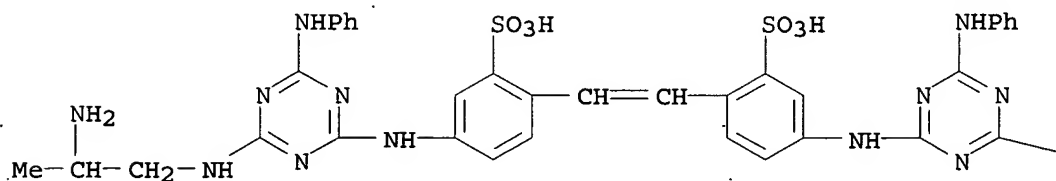


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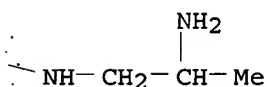
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(CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IC ICM C11D003-42
CC 43-7 (Cellulose, Lignin, Paper, and Other Wood Products)
ST bistriazinylaminostilbene amphoteric fluorescent
whitening agent paper
IT **Fluorescent brighteners**
Paper
(amphoteric fluorescent whitening agents for
paper)
IT **Whitening agents**
(fluorescent whitening; amphoteric
fluorescent whitening agents for paper)
IT 78-90-0, 1,2-Propylene diamine 78-96-6, 1-Aminopropan-2-ol
81-11-8 100-36-7 104-75-6, 2-Ethyl-1-hexylamine 104-78-9,
3-N,N-Diethylamino-1-propylamine 107-15-3, Ethylenediamine,
reactions 108-01-0 108-77-0, Cyanuric chloride 109-55-7
109-76-2, 1,3-Diaminopropane 109-83-1, 2-N-Methylaminoethanol
110-91-8, Morpholine, reactions 111-40-0, Diethylene triamine
111-41-1, N-(2-Hydroxyethyl) ethylene diamine 122-98-5,
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4028-32-4 4461-39-6, 2-(3-Aminopropylamino) ethanol
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213910-64-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(amphoteric fluorescent whitening agents for
paper)
IT 28950-66-5P 602304-27-8P 697768-38-0P
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RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
RACT (Reactant or reagent)
(amphoteric fluorescent whitening agents for
paper)
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RL: SPN (Synthetic preparation); PREP (Preparation)
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RL: SPN (Synthetic preparation); TEM (Technical or engineered
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L42 ANSWER 1 OF 3 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:453320 HCAPLUS

DOCUMENT NUMBER: 141:25251

TITLE: Amphoteric fluorescent
 whitening agents for paper

INVENTOR(S): Scheffler, Goetz; Rohringer, Peter; Fletcher,
 Ian John

PATENT ASSIGNEE(S): Ciba Specialty Chemicals Holdings Inc., Switz.

SOURCE: PCT Int. Appl., 74 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004046293	A2	20040603	WO 2003-EP12583	200311 11

WO 2004046293 C1 20040826

WO 2004046293 A3 20041014

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PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU,
SK
CN 1711348 A 20051221 CN 2003-80103529 200311
11
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BR 2003016400 A 20060221 BR 2003-16400 200311
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JP 2006506492 T2 20060223 JP 2004-552569 200311
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EP 1674616 A2 20060628 EP 2006-111552 200311
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R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,
PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, SK
US 2006155124 A1 20060713 US 2005-534315 200505
09
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PRIORITY APPLN. INFO.: EP 2002-405998 A 200211
19
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EP 2003-779887 A3 200311
11
WO 2003-EP12583 W 200311
11
OTHER SOURCE(S): MARPAT 141:25251
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Novel bis-triazinylaminostilbene amphoteric fluorescent
whitening agents, comprising both individual components and

MEI HUANG EIC1700 REM4B28 571-272-3952

08/17/2006

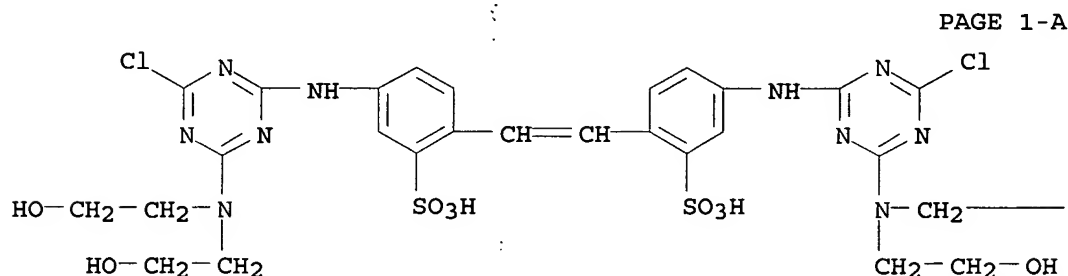
mixts. thereof, are used as fluorescent whitening agents for the fluorescent whitening of paper. Thus, a fluorescent whitening agent comprises a mixt. of compds. of the formula I, II and III in which A* represents a group of the formula IV, wherein A represents -X-Y-NR₃R₄ and C is -NR₁R₂ and B* represents a group of the formula V, VI and VII wherein D represents -NR₅R₆ and E represents -X₁-Y₁-NR₇R₈, whereby X and X₁ each, independently of each other, represent -O- or -NH-, Y and Y₁ each, independently of each other, represent a straight-chain C₂-C₈ alkylene or branched C₃-C₈ alkylene chain, which may be interrupted by one or two nitrogen, oxygen or sulfur atoms or represent a 5- or 6-membered cycloaliph. ring, R₁, R₂, R₅ and R₆ each independently of each other, represent hydrogen, C₁-C₈ alkyl, C₂-C₄ hydroxyalkyl, C₁-C₄ alkoxy C₁-C₄ alkyl, Ph, which is unsubstituted or substituted by halogen, C₁-C₄ alkoxy, C₁-C₄ alkyl or sulfonamido, or R₁ and R₂ and /or R₅ and R₆, together with the nitrogen atom to which they are attached, complete a morpholino- piperidino- or pyrrolidino-ring, R₃, R₄, R₇ and R₈, each independently of each other, represent hydrogen, C₁-C₄ alkyl, C₂-C₄ hydroxyalkyl or R₃ and R₄ and/or R₇ and R₈, together with the nitrogen atom to which they are attached, complete a morpholino-, piperidino- or pyrrolidino-ring and M represents hydrogen, an alk. or alk. earth metal, ammonium or alkylammonium. A process for their prepn. and intermediates useful for their prepn. are discussed.

IT 4028-32-4

RL: RCT (Reactant); RACT (Reactant or reagent)
(amphoteric fluorescent whitening agents for paper)

RN 4028-32-4 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[bis(2-hydroxyethyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



● 2 Na

PAGE 1-B

—CH₂—OH

IC ICM C11D003-42
CC 43-7 (Cellulose, Lignin, Paper, and Other Wood Products)
ST bistriazinylaminostilbene amphoteric fluorescent
whitening agent paper
IT Fluorescent brighteners
Paper
(amphoteric fluorescent whitening agents for
paper)
IT Whitening agents
(fluorescent whitening; amphoteric
fluorescent whitening agents for paper)
IT 78-90-0, 1,2-Propylene diamine 78-96-6, 1-Aminopropan-2-ol
81-11-8 100-36-7 104-75-6, 2-Ethyl-1-hexylamine 104-78-9,
3-N,N-Diethylamino-1-propylamine 107-15-3, Ethylenediamine,
reactions 108-01-0 108-77-0, Cyanuric chloride 109-55-7
109-76-2, 1,3-Diaminopropane 109-83-1, 2-N-Methylaminoethanol
110-91-8, Morpholine, reactions 111-40-0, Diethylene triamine
111-41-1, N-(2-Hydroxyethyl) ethylene diamine 122-98-5,
2-Anilinoethanol 124-68-5, 2-Amino-2-methyl-1-propanol 156-43-4,
p-Phenetidine 694-83-7, 1,2-Diaminocyclohexane 929-59-9
4028-32-4 4461-39-6, 2-(3-Aminopropylamino) ethanol
4985-85-7, N-(3-Aminopropyl)diethanolamine 13281-93-1
37138-23-1 52205-59-1 52576-51-9
213910-64-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(amphoteric fluorescent whitening agents for
paper)
IT 28950-66-5P 602304-27-8P 697768-38-0P
697768-42-6P 697768-49-3P 697768-51-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
RACT (Reactant or reagent)
(amphoteric fluorescent whitening agents for
paper)
IT 697767-94-5P 697767-95-6P 697767-96-7P
697767-98-9P 697768-00-6P 697768-04-0P
697768-06-2P 697768-09-5P 697768-11-9P
697768-12-0P 697768-13-1P 697768-15-3P
697768-16-4P 697768-18-6P 697768-20-0P
697768-22-2P 697768-24-4P 697768-25-5P
697768-28-8P 697768-29-9P 697768-30-2P
697768-31-3P 697768-33-5P 697768-34-6P
697768-35-7P 697768-40-4P 697768-41-5P
697768-43-7P 697768-44-8P 697768-45-9P
697768-46-0P 697768-47-1P 697768-48-2P
697768-50-6P 697768-52-8P 697768-54-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(amphoteric fluorescent whitening agents for
paper)
IT 134198-37-1P 602304-09-6P 697767-93-4P

697767-97-8P 697767-99-0P 697768-01-7P
 697768-03-9P 697768-07-3P 697768-23-3P
 697768-36-8P 697768-37-9P 697768-39-1P

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (amphoteric fluorescent whitening agents for paper)

L42 ANSWER 2 OF 3 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:678928 HCAPLUS

DOCUMENT NUMBER: 139:216187

TITLE: Process for the treatment of textile fiber materials with **fluorescent brighteners**

INVENTOR(S): Kaschig, Juergen; Hochberg, Robert; Becherer, Oliver; Metzger, Georges; Eckhardt, Claude

PATENT ASSIGNEE(S): Ciba Specialty Chemicals Holding Inc., Switz.

SOURCE: PCT Int. Appl., 42 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003070869	A1	20030828	WO 2003-EP1618	20030218

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

WO 2003070870	A1	20030828	WO 2003-EP1619	20030218
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W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

AU 2003205777	A1	20030909	AU 2003-205777	20030218
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AU 2003208870	A1	20030909	AU 2003-208870	20030218
BR 2003006184	A	20041019	BR 2003-6184	20030218
BR 2003006187	A	20041019	BR 2003-6187	20030218
EP 1478724	A1	20041124	EP 2003-706527	20030218
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK	A1	20041215	EP 2003-702652	20030218
CN 1596299	A	20050316	CN 2003-801604	20030218
CN 1596300	A	20050316	CN 2003-801616	20030218
JP 2005517800	T2	20050616	JP 2003-569763	20030218
JP 2005517801	T2	20050616	JP 2003-569764	20030218
ZA 2004002941	A	20050111	ZA 2004-2941	20040419
ZA 2004002942	A	20050112	ZA 2004-2942	20040419
PRIORITY APPLN. INFO.:			EP 2002-405136	A 20020225
			EP 2002-405876	A 20021011
			WO 2003-EP1618	W

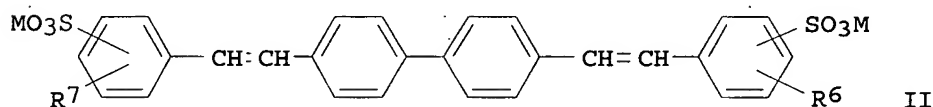
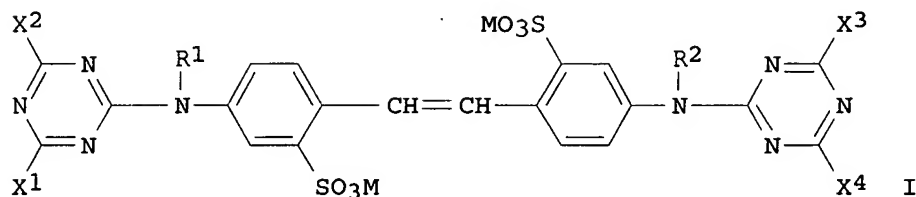
200302
18

WO 2003-EP1619

W

200302
18

OTHER SOURCE(S) : MARPAT 139:216187
GI

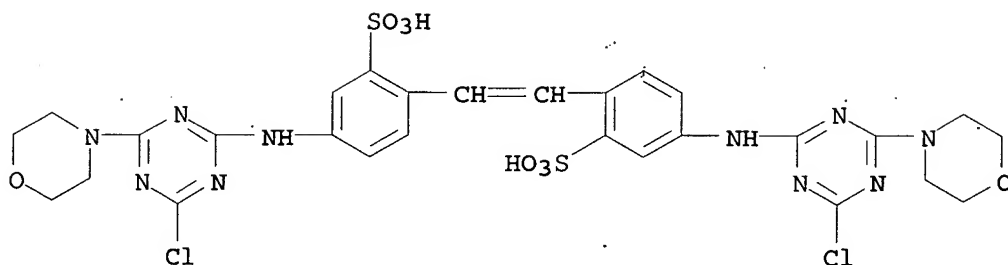


AB Laundry detergent **compn.** comprises (i) 1-70% of an anionic surfactant and/or a nonionic surfactant; (ii) 0-75% of a builder; (iii) 0-30% of a peroxide; (iv) 0-10% of a peroxide activator; and (v) 0.001-5% of a **mixt.** of compds. of formulas I and II of improved **whitening** property. Wherein a **fluorescent whitening agent** is of formula I, in which R1 and R2 are, independently of each other, hydrogen or unsubstituted or substituted C1-C8alkyl, X1, X2, X3 and X4 are, independently of each other, -N(R3)R4 or -OR5, wherein R3 and R4 are hydrogen, cyano, unsubstituted or substituted C1-C8alkyl or C5-C7cycloalkyl, or R3 and R4, together with the nitrogen atom linking them, form a heterocyclic ring, and R5 is unsubstituted or substituted C1-C8alkyl, and M is hydrogen or a cation. Wherein a **fluorescent whitening agent** is of formula I, in which R6 and R7, independently of each other, are hydrogen, C1-C8alkyl, C1-C8alkoxy or halogen, and M is as defined above under formula I. The textile fiber materials are treated with 0.05 to 3.0% by wt., based on the wt. of the textile fiber material, of the compd. of formula I, for enhanced **whiteness**.

IT 28950-66-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(laundry detergent contg. **fluorescent brighteners**)

RN 28950-66-5 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



● 2 Na

IC ICM C11D003-42
 ICS C11D003-386
 CC 46-5 (Surface Active Agents and Detergents)
 ST **fluorescent brightener** laundry detergent
 bleaching
 IT Detergents
 (bleaching; laundry detergent contg. **fluorescent brighteners**)
 IT Textiles
 (cotton; laundry detergent contg. **fluorescent brighteners**)
 IT Polyamide fibers, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (fabrics; laundry detergent contg. **fluorescent brighteners**)
 IT **Fluorescent brighteners**
 (laundry detergent contg. **fluorescent brighteners**)
 IT Detergents
 (laundry; laundry detergent contg. **fluorescent brighteners**)
 IT Textiles
 (wool; laundry detergent contg. **fluorescent brighteners**)
 IT 75-04-7, Ethylamine, reactions 108-77-0, Cyanuric chloride
 110-73-6, 2-Ethylaminoethanol 110-91-8, Morpholine, reactions
 141-43-5, Ethanolamine, reactions 7336-20-1 27076-29-5
 28950-66-5 52205-59-1
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (laundry detergent contg. **fluorescent brighteners**)
 IT 3654-77-1P 586962-95-0P 586962-96-1P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (laundry detergent contg. **fluorescent brighteners**)
 IT 5108-90-7P 586962-94-9P
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (laundry detergent contg. **fluorescent brighteners**)
 IT 4470-72-8 20182-55-2 25295-51-6 27344-41-8 87777-77-3
 457883-29-3 586962-98-3 586962-99-4 586963-00-0 586963-01-1
 586963-02-2 586963-03-3 586963-04-4 586963-05-5

586963-06-6 586963-07-7 586963-08-8 586963-09-9
586963-10-2 586963-11-3

RL: TEM (Technical or engineered material use); USES (Uses)
(laundry detergent contg. fluorescent
brighteners)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN
THE RE FORMAT

L42 ANSWER 3 OF 3 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1998:466333 HCAPLUS

DOCUMENT NUMBER: 129:123760

TITLE: Preparation of triazinylaminostilbenes as
ultra-violet absorbing agents for textile fibers

INVENTOR(S): Eckhardt, Claude; Metzger, Georges; Reinehr,
Dieter; Sauter, Hanspeter; Dubini, Mario

PATENT ASSIGNEE(S): Ciba Specialty Chemicals Holding Inc., Switz.

SOURCE: Eur. Pat. Appl., 19 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 850934	A1	19980701	EP 1997-810986	199712 16
EP 850934	B1	20040310		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
GB 2320714	A1	19980701	GB 1997-25501	199712 03
ES 2214601	T3	20040916	ES 1997-810986	199712 16
ZA 9711567	A	19980624	ZA 1997-11567	199712 23
AU 9749256	A1	19980625	AU 1997-49256	199712 23
AU 739556	B2	20011018		
CN 1191861	A	19980902	CN 1997-107278	199712 23
CN 1118461	B	20030820		
BR 9705635	A	19990518	BR 1997-5635	199712 23

US 5945396 A 19990831 US 1997-996895

199712
23

JP 10182622 A2 19980707 JP 1997-354922

199712
24

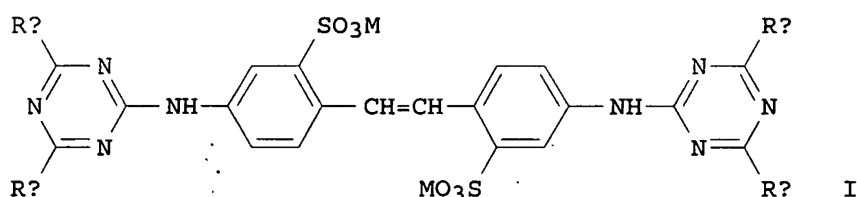
PRIORITY APPLN. INFO.:

GB 1996-26851

A

199612
24OTHER SOURCE(S):
GI

MARPAT 129:123760



AB The present invention provides a compd. having the formula [I; in which each Rd is the same or different and each is NH-Z-N(Ra) (Rb) or N-[Z-N(Ra) (Rb)]₂ in which Z is C₂-14 alkylene or optionally substituted arylene, Ra and Rb are the same or different and each is C₁-12 alkyl, or Ra and Rb, together with the nitrogen atom to which they are each attached, form a morpholino, piperidino or piperazino ring; each Rc is the same or different and is NH₂, NH(C₁-4 alkyl), N(C₁-4 alkyl)₂, N(CH₂CH₂OH)₂, O-C₁-4 alkyl, p-(MO₂C)C₆H₄NH, (MO₃S)C₆H₄NH, or morpholino and M is hydrogen, an alkali metal atom, ammonium or a cation formed from an amine] or a quaternized form thereof. The present invention also relates to a compn. for the treatment of textiles, in particular to a compn. contg. the new ultra-violet absorbing agents; and to a method for the improvement of both the sun protection factor (UPF) and the whiteness of textile fiber material, comprising treating the material with the compn. according to the present invention. Thus, I (Rd = Cl, Rc = NH₂, M = Na) was heated with 3-dimethylamino-1-propylamine in an oil bath held at 90° to give I [Rd = NH(CH₂)₃NMe₂, Rc = NH₂, M = Na] (II). A rinse cycle softener base compn. contg. 2.7% II, distearyldimethylammonium chloride, fatty alc. ethoxylate, and deionized water was prepd. The latter compn. improved the Ganz whiteness and UPF of a cotton fabric.

IT 210101-79-4P

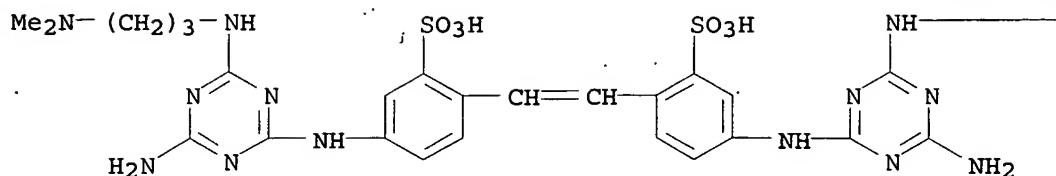
RL: IMF (Industrial manufacture); PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(prepn. of triazinylaminostilbenes as ultra-violet absorbing agents for textile fibers)

RN 210101-79-4 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-amino-6-[[3-(dimethylamino)propyl]amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



● 2 Na

PAGE 1-B

— (CH₂)₃—NMe₂

IC ICM C07D251-54
ICS D06M013-355

CC 40-7 (Textiles and Fibers)

IT Quaternary ammonium compounds, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(UV-absorbing compns. contg.; prepn. of triazinylaminostilbenes as ultra-violet absorbing agents for textile fibers)

IT 210101-78-3P 210101-79-4P 210101-81-8P
210101-82-9P 210101-83-0P 210101-84-1P
210101-85-2P 210101-86-3P
RL: IMF (Industrial manufacture); PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(prepn. of triazinylaminostilbenes as ultra-violet absorbing agents for textile fibers)

IT 51-05-8, Procaine hydrochloride 104-78-9, 3-Diethylamino-1-propylamine 108-00-9, 2-Dimethylaminoethylamine 109-01-3, 1-Methylpiperazine 109-55-7, 3-Dimethylamino-1-propylamine 123-12-6, N,N,N',N'-Tetraethyldiethylenetriamine 37138-23-1 37138-25-3 52205-59-1 210102-12-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of triazinylaminostilbenes as ultra-violet absorbing agents for textile fibers)

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d 145 ibib abs hitstr hitind 1-2

L45 ANSWER 1 OF 2 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:757686 HCAPLUS

DOCUMENT NUMBER: 139:262239

TITLE: Amphoteric and cationic fluorescent brighteners, their production and their use

INVENTOR(S): Scheffler, Goetz; Rohringer, Peter; Schlatter, Rene; Deisenthof, Ted

PATENT ASSIGNEE(S): Ciba Specialty Chemicals Holding Inc., USA

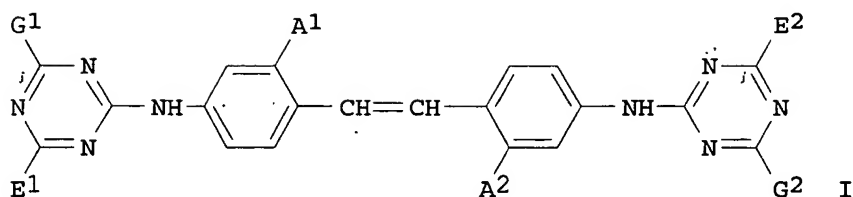
MEI HUANG EIC1700 REM4B28 571-272-3952

08/17/2006

SOURCE: PCT Int. Appl., 56 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003078406	A1	20030925	WO 2003-EP2620	20030313
WO 2003078406	C1	20040115		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2003227060	A1	20030929	AU 2003-227060	20030313
EP 1485361	A1	20041215	EP 2003-744360	20030313
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
US 2005161184	A1	20050728	US 2003-508444	20030313
JP 2005529854	T2	20051006	JP 2003-576412	20030313
PRIORITY APPLN. INFO.:				EP 2002-405211 A
				20020319
				WO 2003-EP2620 W
				20030313

OTHER SOURCE(S): MARPAT 139:262239
 GI



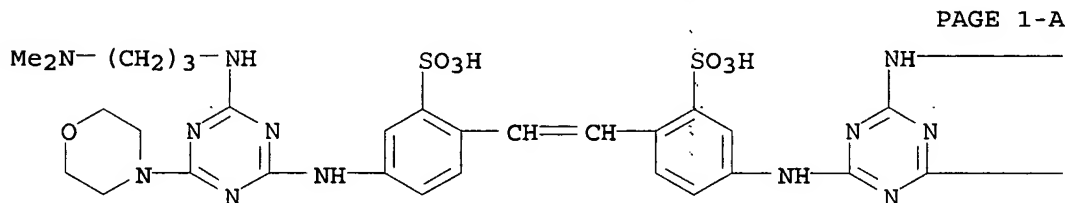
AB Fluorescent brighteners (I; A1, A2 = sulfo or sulfonate anion; E1, E2 = optionally substituted piperazino; G1, G2 = optionally substituted alkylenediamine attached through N) are obtained from cyanuric chloride or amine-substituted triazines. I are not adversely affected by the presence of cationic polymers used in paper prodn. or by anionic brighteners. In an example, 1-methylpiperazine was treated (2:1) with 4,4'-bis[(4-anilino-6-chloro-1,3,5-triazin-2-yl)amino]-2,2'-stilbenedisulfonic acid disodium salt to provide a fluorescent brightener.

IT 602304-09-6P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(brightener; prodn. of piperazine- and triazine-based amphoteric and cationic fluorescent brighteners)

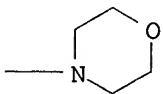
RN 602304-09-6 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(dimethylamino)propyl]amino]-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)



PAGE 1-A

— (CH₂)₃—NMe₂



PAGE 1-B

IC ICM C07D251-68

ICS D21H021-30; C07D251-50

CC 41-10 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)

Section cross-reference(s): 28

IT 602303-67-3P 602303-70-8P 602303-80-0P 602303-85-5P
602303-93-5P 602304-04-1P 602304-07-4P 602304-09-6P
602304-14-3P 602304-16-5P 602304-19-8P 602304-22-3P
602304-23-4P 602304-24-5P 602304-25-6P 602304-26-7P
602304-28-9P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(brightener; prodn. of piperazine- and triazine-based amphoteric and cationic fluorescent brighteners)

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1991:249766 HCAPLUS

DOCUMENT NUMBER: 114:249766

TITLE: Liquid detergent compositions containing fluorescent brighteners

INVENTOR(S): Schuessler, Ulrich; Seng, Florian

PATENT ASSIGNEE(S): Bayer A.-G., Germany

SOURCE: Ger. Offen., 5 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

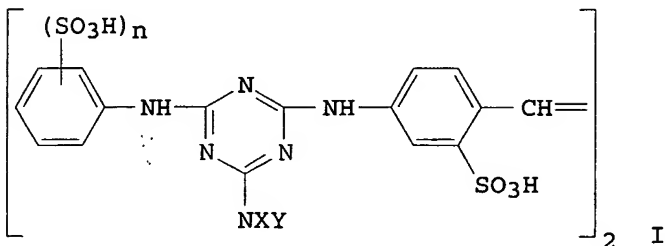
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3922494	A1	19910117	DE 1989-3922494	19890708
EP 413926	A1	19910227	EP 1990-111940	19900623
R: CH, DE, FR, GB, IT, LI JP 03045699	A2	19910227	JP 1990-172830	19900702
CA 2020666	AA	19910109	CA 1990-2020666	19900706
PRIORITY APPLN. INFO.:		DE 1989-3922494	A	19890708

not avail

OTHER SOURCE(S):
GI

MARPAT 114:249766



AB The title compns. contain nonionic and cationic surfactants and stilbene brighteners I (X = H, C1-4 alkyl, CH2CH2Z, Y; Y = ANVW; XY

= CH₂CH₂NRCH₂CH₂CH₂; A = C₂-6 alkylene, R₁OR₁; R₁ = C₂-6 alkylene; V, W = C₁-4 alkyl optionally contg. OH or NR₂; VW = CH₂CH₂TCH₂CH₂; T = O, S, NR, CH₂; Z = OH, CN, CO₂R, CONH₂, CONR₂; R = C₁-4 alkyl; n = 0-2) contg. cationic groups and impart good brightness and a soft feel to fabrics during laundering. A compn. prepd. by adding ethoxylated (10 mol) C₁₂-14 fatty acid 18, dimethyldi(tallow alkyl)ammonium chloride 5, and H₂O .apprx.71.5 parts to a dispersion of 0.1 parts I (X = H; Y = CH₂CH₂Net₂; n = 0) in 5.5 part EtOH was used for the laundering of soiled cotton fabrics, giving good cleaning and brightening.

IT 134198-37-1

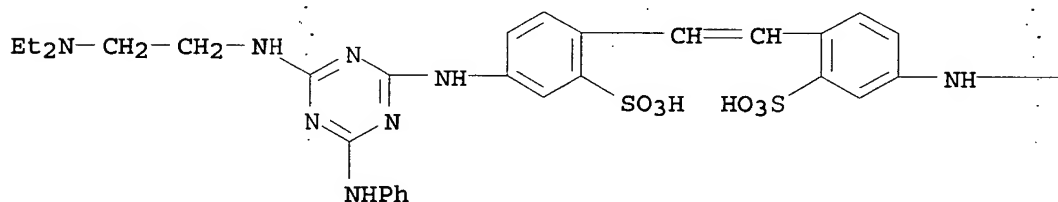
RL: USES (Uses)

(fluorescent brighteners, liq. detergent compns. contg.)

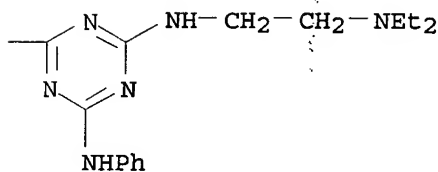
RN 134198-37-1 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[2-(diethylamino)ethyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-
(9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IC ICM C11D003-42

ICS C11D009-44; C11D017-08; C07D251-68

CC 46-5 (Surface Active Agents and Detergents)

IT 134198-37-1 134198-38-2 134198-39-3 134216-04-9

135247-38-0

RL: USES (Uses)

(fluorescent brighteners, liq. detergent compns. contg.)

=> d 146 ibib abs hitstr hitind 1-32

L46 ANSWER 1 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:241981 HCAPLUS

DOCUMENT NUMBER: 138:273343

TITLE: Water-soluble single-use laundry detergent
package with fluorescent dye in the
film

INVENTOR(S): Hsu, Feng-Lung Gordon; Giblin, Edward John; Lee,

MEI HUANG EIC1700 REM4B28 571-272-3952

08/17/2006

PATENT ASSIGNEE(S): Kwang H.
SOURCE: Unilever Home and Personal Care, USA, USA
U.S. Pat. Appl. Publ., 5 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003060387	A1	20030327	US 2001-957329	200109 20
WO 2003026982	A1	20030403	WO 2002-EP10127	200209 10

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W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH,
CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD,
GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ,
LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ,
NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ,
TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ,
BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR,
BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD,
TG

PRIORITY APPLN. INFO.: US 2001-957329 A
200109
20

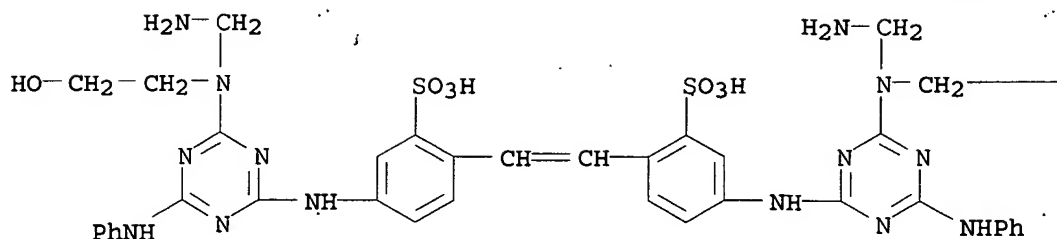
<--
AB A water-sol. package for use in a single cleaning application
comprises: (a) a detergent compn. for release on dissoln.
of the package, (b) a water-sol. body portion such as polyvinyl alc.
for contg. the compn., the body portion comprising a
water-sol. film compn., the film compn.
comprising about 0.01% - 20 wt% of the film compn., of a
fluorescent dye which has a soly. in distd. deionized water
at 25 °C of less than about 6%.

IT 169762-28-1, Tinopal 5BMGX
RL: TEM (Technical or engineered material use); USES (Uses)
(water-sol. laundry detergent package with fluorescent
dye incorporated in the film)

RN 169762-28-1 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-
[(aminomethyl)(2-hydroxyethyl)amino]-6-(phenylamino)-1,3,5-triazin-2-
yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



● 2 Na

PAGE 1-B

—CH₂—OH

IC ICM C11D017-00
 INCL 510296000; 510301000
 CC 46-6 (Surface Active Agents and Detergents)
 ST polyvinylalc laundry detergent package film **fluorescent dye**
 IT **Brightening**
 (agents; water-sol. laundry detergent package with **fluorescent dye** incorporated in the film)
 IT Detergents
 (laundry, liq.; water-sol. laundry detergent package with **fluorescent dye** incorporated in the film)
 IT **Fluorescent dyes**
 (water-sol. laundry detergent package with **fluorescent dye** incorporated in the film)
 IT 9002-89-5, Polyvinyl alcohol
 RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
 (C 120T; water-sol. laundry detergent package with **fluorescent dye** incorporated in the film)
 IT **169762-28-1, Tinopal 5BMGX**
 RL: TEM (Technical or engineered material use); USES (Uses)
 (water-sol. laundry detergent package with **fluorescent dye** incorporated in the film)

L46 ANSWER 2 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1999:640956 HCAPLUS
 DOCUMENT NUMBER: 131:273416
 TITLE: Water-soluble sunscreens and detergent **compositions** containing them
 INVENTOR(S): Cox, Russell Duncan; Finch, Timothy David; Griffiths, John; Maddison, Christopher; Wilkes, Ian Paul
 PATENT ASSIGNEE(S): Unilever PLC, UK; Unilever N.V.; Hindustan Lever Ltd.
 SOURCE: PCT Int. Appl., 33 pp.

DOCUMENT TYPE: CODEN: PIXXD2
 LANGUAGE: Patent
 FAMILY ACC. NUM. COUNT: English
 PATENT INFORMATION: 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9950379	A1	19991007	WO 1999-EP1962	19990323
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W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9935980	A1	19991018	AU 1999-35980	19990323
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PRIORITY APPLN. INFO.:		GB 1998-7073	A	19980401
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		GB 1998-7074	A	19980401
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		WO 1999-EP1962	W	19990323

OTHER SOURCE(S): MARPAT 131:273416

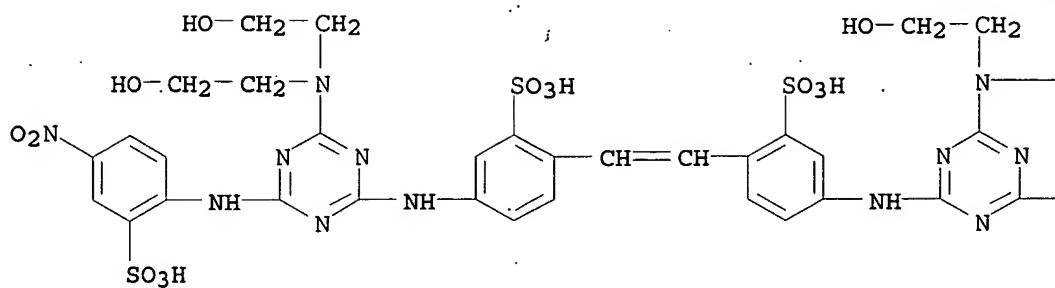
AB A sunscreen agent which is a non-dye, substantially non-fluorescent, non-quaternary ammonium compd. which absorbs UVA and/or UVB radiation is incorporated ($\geq 5\%$, preferably $\geq 7.5\%$, more preferably $\geq 10\%$) in a detergent and in a test deposited on a sheet of cotton-fabric by a soln. of 0.2 g/L of the agent in H₂O for 1 h at 21° at a soln.:sheet wt. ratio 25:1, (preferably followed by rinsing) and then followed by drying. A typical powd. detergent contained water 12.5, Na linear alkylbenzenesulfonate 23.6, Na tripolyphosphate 19.2, Na silicate 4.8, sunscreen 0.2, SCMC 0.4, Na sulfate 28.6, calcite 10.3, and minors 0.4%.

IT 245335-51-7 245335-52-8
 RL: MOA (Modifier or additive use); USES (Uses)
 (water-sol. sunscreens for detergents)

RN 245335-51-7 HCAPLUS

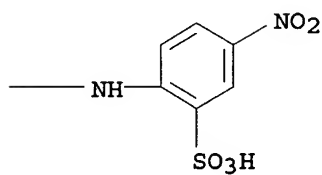
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-bis(2-hydroxyethyl)amino]-6-[(4-nitro-2-sulfophenyl)amino]-1,3,5-triazin-2-yl]amino]-, tetrasodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



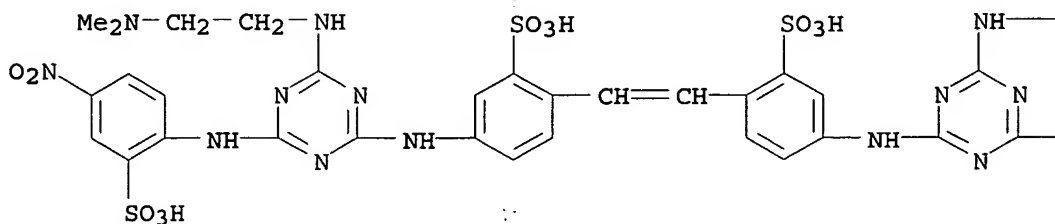
●4 Na

PAGE 1-B

—CH₂—CH₂—OH

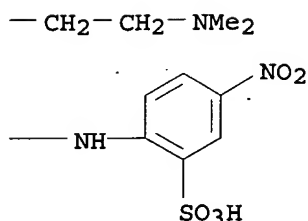
RN 245335-52-8 HCAPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[2-(dimethylamino)ethyl]amino]-6-[(4-nitro-2-sulfonylphenyl)amino]-1,3,5-triazin-2-yl]amino]-, tetrasodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●4 Na

PAGE 1-B



IC ICM C11D003-28

CC 46-5 (Surface Active Agents and Detergents)

IT 245335-50-6 245335-51-7 245335-52-8

RL: MOA (Modifier or additive use); USES (Uses)
 (water-sol. sunscreens for detergents)

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN
 THE RE FORMAT

L46 ANSWER 3 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1997:623233 HCAPLUS

DOCUMENT NUMBER: 127:279863

TITLE: Powder detergent **composition** and
 method of making

INVENTOR(S): Brouwer, Steven J.; Wint, Michael J.

PATENT ASSIGNEE(S): Amway Corporation, USA; Brouwer, Steven J.;
 Wint, Michael J.

SOURCE: PCT Int. Appl., 52 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9733961	A1	19970918	WO 1997-US3865	19970310

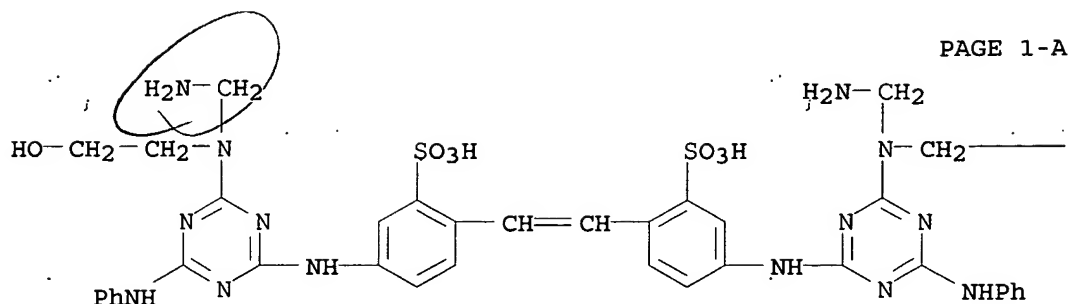
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ,
 DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR,
 KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO,
 NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA,
 UG, US, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
 RW: GH, KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR,
 GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM,
 GA, GN, ML, MR, NE, SN, TD, TG

US 5714451	A	19980203	US 1996-616442	19960315
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CA 2248991	AA	19970918	CA 1997-2248991	19970310
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CA 2248991	C	20011030		
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AU 9720770 A1 19971001 AU 1997-20770 199703
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AU 716957 B2 20000309
EP 888426 A1 19990107 EP 1997-909015 199703
10
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R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,
PT, IE, FI
CN 1218501 A 19990602 CN 1997-194672 199703
10
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JP 11509574 T2 19990824 JP 1997-532791 199703
10
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JP 3217376 B2 20011009
US 6080711 A 20000627 US 1998-41060 199803
10
<--
PRIORITY APPLN. INFO.: US 1996-616442 A2 199603
15
<--
WO 1997-US3865 W 199703
10
<--
AB The title detergent comprises (a) a powder laundry detergent base
that includes an inorg. carrier and a surfactant and (b) post-added
acidulant and discrete **whitening** agent particles to
provide a detergent having improved cool water soly. with bulk color
deterioration caused by **whitening** agents being minimized.
The detergent includes 5-80% inorg. carrier, 1-90% detergent
surfactant, 0.1-15% acidulant and 0.1-30% **whitening** agent
particles. The acidulant is selected from the group of acids that
in an acid form are sol. in water in an amt. not greater than about
8% and in a salt form are sol. in water at least in an amt. of about
15%. In a more preferred form, the **whitening** agent
particles consist of a **whitening** agent, a surfactant,
preferably an anionic surfactant, and water. A detergent contained
Na2CO3 55.88, Tinopal SWN 0.02, Sipernat 50 3.0, CM-cellulose 2.0,
Neodol 25-7, citric acid 7.5, water 4.0, fumaric acid 5.0, and
perfumes and other additives 3.1%.
IT 169762-28-1, Tinopal 5BM-GX
RL: TEM (Technical or engineered material use); USES (Uses)
(powder detergent **compn.** and method of making)
RN 169762-28-1 HCAPLUS
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-
[(aminomethyl)(2-hydroxyethyl)amino]-6-(phenylamino)-1,3,5-triazin-2-
yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



PAGE 1-B

—CH₂—OH

IC ICM C11D001-86
ICS C11D003-42; C11D007-08; C11D011-00; C11D017-06
CC 46-5 (Surface Active Agents and Detergents)
ST powder laundry detergent **compn**; whitening agent
powder laundry detergent; acidulant powder laundry detergent
IT Alcohols, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(C12-15, ethoxylated, Neodol 25-7, Pareth 25-7; powder detergent
compn. and method of making)
IT Alcohols, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(C14-15, ethoxylated, Pareth 45-7; powder detergent **compn**
. and method of making)
IT Detergents
(laundry, granular; powder detergent **compn.** and method
of making)
IT Surfactants
Whitening agents
(powder detergent **compn.** and method of making)
IT Acids, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(powder detergent **compn.** and method of making)
IT 77-92-9, Citric acid, uses 91-44-1, Tinopal SWN 110-15-6,
Succinic acid, uses 110-17-8, Fumaric acid, uses 124-04-9,
Adipic acid, uses 4193-55-9, Tinopal UNPA-GX 9004-32-4,
Carboxymethylcellulose 10043-35-3, Boric acid, uses 27344-41-8,
Tinopal CBS-X 169762-28-1, Tinopal 5BM-GX 196109-62-3,
Optiblanc 2M/G-LT
RL: TEM (Technical or engineered material use); USES (Uses)
(powder detergent **compn.** and method of making)

L46 ANSWER 4 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1997:623231 HCAPLUS
DOCUMENT NUMBER: 127:264581
TITLE: Discrete whitening agent particles,

MEI HUANG EIC1700 REM4B28 571-272-3952

08/17/2006

method of making, and powder detergent
containing same
INVENTOR(S): Brouwer, Steven J.; Wint, Michael J.
PATENT ASSIGNEE(S): Amway Corporation, USA; Brouwer, Steven J.;
Wint, Michael J.
SOURCE: PCT Int. Appl., 52 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9733958	A1	19970918	WO 1997-US3740	19970310
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, US, US, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
US 5714456	A	19980203	US 1996-616208	19960315
US 5714450	A	19980203	US 1996-616217	19960315
US 5714452	A	19980203	US 1996-616570	19960315
AU 9720750	A1	19971001	AU 1997-20750	19970310
TW 473543	B	20020121	TW 1997-86103216	19970314
US 5998351	A	19991207	US 1998-41063	19980310
PRIORITY APPLN. INFO.:				
			US 1996-616208	A2 19960315
			US 1996-616217	A2 19960315
			US 1996-616570	A2

199603

15

WO 1997-US3740

W

199703

10

AB The title **whitening** agent particles include a **whitening** agent and a surfactant. The surfactant for the **whitening** agent particle includes those anionics, nonionics, zwitterionics, ampholytics, cationics, and **mixts.** thereof that are solids at 0-82°. A powd. laundry detergent is provided with discrete **whitening** agent particles that do not adversely affect the bulk appearance of the detergent during storage. The detergent includes 5-80% of an inorg. carrier, 1-90% of a detergent surfactant, and 0.1-30% of the discrete **whitening** agent particles. The **whitening** agent particles, in a more desirable form, include a **whitener** and water. The particles are formed by extruding a homogeneous mass into discrete particles.

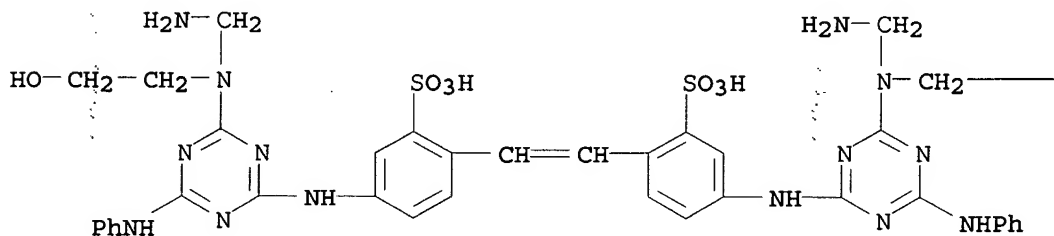
IT 169762-28-1, Tinopal 5BM-GX

RL: TEM (Technical or engineered material use); USES (Uses)
(discrete **whitening** agent particles, method of making,
and powder detergent contg. same)

RN 169762-28-1 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-
[(aminomethyl)(2-hydroxyethyl)amino]-6-(phenylamino)-1,3,5-triazin-2-
yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



● 2 Na

PAGE 1-B

-CH2-OH

IC ICM C11D001-66

ICS C11D003-42; C11D011-00; C11D017-06

CC 46-4 (Surface Active Agents and Detergents)

ST discrete **whitening** agent particle; surfactant
whitening agent particle

IT Alcohols, uses

MEI HUANG EIC1700 REM4B28 571-272-3952

08/17/2006

RL: TEM (Technical or engineered material use); USES (Uses)
 (C12-15, ethoxylated; discrete **whitening** agent particles, method of making, and powder detergent contg. same)

IT Alcohols, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (C14-15, ethoxylated, Pareth 45-7; discrete **whitening** agent particles, method of making, and powder detergent contg. same)

IT Surfactants
Whitening agents
 (discrete **whitening** agent particles, method of making, and powder detergent contg. same)

IT Detergents
 (laundry, granular; discrete **whitening** agent particles, method of making, and powder detergent contg. same)

IT 110-17-8, 2-Butenedioic acid (E)-, uses 151-21-3, uses 497-19-8, Sodium carbonate, uses 822-16-2, Sodium stearate 4193-55-9, Tinopal UNPA-GX 7664-93-9D, Sulfuric acid, alkyl derivs., sodium salt, uses 27344-41-8, Tinopal CBS-X 169762-28-1, Tinopal 5BM-GX 196109-62-3, Optiblanc 2M/G-LT
 RL: TEM (Technical or engineered material use); USES (Uses)
 (discrete **whitening** agent particles, method of making, and powder detergent contg. same)

L46 ANSWER 5 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1997:168525 HCAPLUS
 DOCUMENT NUMBER: 126:159055
 TITLE: Detergent **composition** comprising clay softening system and hydrophilic **brightener**
 INVENTOR(S): Fredj, Abdennaceur; Lappas, Dimitris; Cauwberghs, Serge Gabriel Pierre Roger
 PATENT ASSIGNEE(S): Procter & Gamble Company, USA
 SOURCE: Eur. Pat. Appl., 13 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 753567	A1	19970115	EP 1995-201943	19950714

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R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE

PRIORITY APPLN. INFO.: EP 1995-201943

19950714

<--

OTHER SOURCE(S): MARPAT 126:159055

AB A liq., granular, paste, bar or gel **compn.** providing fabric softening through the wash cycle comprises smectitic clay softener and 4,4'-bis[(4-anilino-6-(N-2-bishydroxyethyl)-s-triazin-2-yl)amino]-2,2'-stilbenedisulfonic acid di-Na salt (Tinopal UNPA-GX) or 4,4'-bis[(4-anilino-6-(N-2-hydroxyethyl-N-methylamino)-s-triazin-2-yl)amino]-2,2'-stilbenedisulfonic acid di-Na salt (Tinopal 5BM-GX)

as hydrophilic **brightener**.

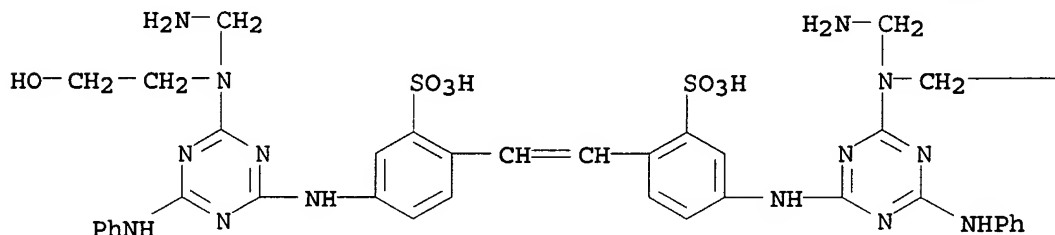
IT 169762-28-1, Tinopal 5BM-GX

RL: MOA (Modifier or additive use); USES (Uses)
(**brightener**; detergent **compn.** comprising clay
softening system and hydrophilic **brightener**)

RN 169762-28-1 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-
[(aminomethyl)(2-hydroxyethyl)amino]-6-(phenylamino)-1,3,5-triazin-2-
yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



● 2 Na

PAGE 1-B

—CH₂—OH

IC ICM C11D003-12

ICS C11D003-42

CC 46-6 (Surface Active Agents and Detergents)

Section cross-reference(s): 40

ST detergent **compn** clay softener hydrophilic

brightener; clay smectitic softener detergent hydrophilic

brightener; stilbenedisulfonate

anilinobishydroxyethyltriazinylamino **brightener** detergent

compn; hydroxyethyltriazinylaminoanilinstilbenedisulfonate

brightener detergent clay fabric softener;

triazinylaminostilbenedisulfonate **brightener** detergent

compn clay softener

IT **Brightening**

(agents, triazinylaminostilbenedisulfonate derivs.; detergent

compn. comprising clay softening system and hydrophilic

brightener)

IT Detergents

(detergent **compn.** comprising clay softening system and
hydrophilic **brightener**)

IT Fabric softeners

(smectitic clays; detergent **compn.** comprising clay
softening system and hydrophilic **brightener**)

IT Clays, uses

RL: TEM (Technical or engineered material use); USES (Uses)

(smectitic, fabric softeners; detergent **compn.**)

comprising clay softening system and hydrophilic
brightener)

IT 4193-55-9, Tinopal UNPA-GX 169762-28-1, Tinopal 5BM-GX
RL: MOA (Modifier or additive use); USES (Uses)
(brightener; detergent compn. comprising clay
softening system and hydrophilic brightener)

L46 ANSWER 6 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1995:896246 HCAPLUS

DOCUMENT NUMBER: 123:290536

TITLE: Laundry detergent compositions with
dye-transfer inhibition effect

INVENTOR(S): Panandiker, Rajan Keshav; Wertz, William Conrad;
Hugues, Larry James

PATENT ASSIGNEE(S): Procter and Gamble Co., USA

SOURCE: PCT Int. Appl., 26 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9513354	A1	19950518	WO 1994-US11509	19941011
<p>W: AM, AU, BB, BG, BR, BY, CA, CH, CN, CZ, EE, FI, GE, HU, JP, KG, KP, KR, KZ, LK, LR, LT, LV, MD, MG, MN, NO, NZ, PL, RO, RU, SI, SK, TJ, TT, UA, UZ, VN</p> <p>RW: KE, MW, SD, SZ, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG</p>				
US 5466802	A	19951114	US 1993-150644	19931110
CA 2174722	AA	19950518	CA 1994-2174722	19941011
AU 9479319	A1	19950529	AU 1994-79319	19941011
EP 728184	A1	19960828	EP 1994-930090	19941011
BR 9408024	A	19961217	BR 1994-8024	19941011
CN 1139954	A	19970108	CN 1994-194711	19941011

JP 09505096

T2

19970520

JP 1994-513823

199410

11

PRIORITY APPLN. INFO.:

US 1993-150644

A

199311

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WO 1994-US11509

W

199410

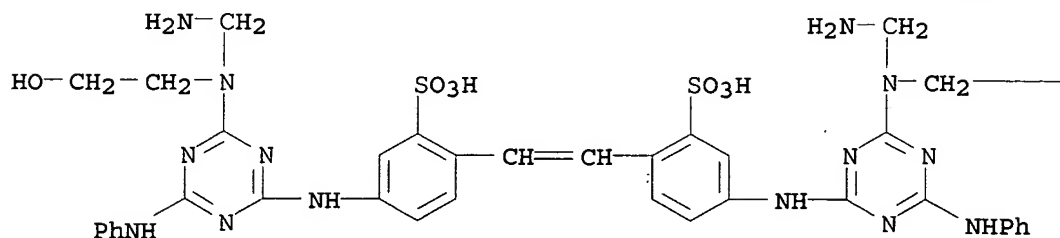
11

OTHER SOURCE(S):

MARPAT 123:290536

- AB Detergent **compns.** suitable for washing colored fabrics in aq. washing soln. with little or no transfer of dye between fabrics comprise surfactants, detergent builders, certain selected polymeric dye transfer inhibiting agents, and certain selected hydrophilic optical **brighteners**. The polymeric dye transfer inhibiting agents are polyamine N-oxides such as poly(4-vinylpyridine-N-oxide) and copolymers of N-vinylpyrrolidone and N-vinylimidazole. The optical **brighteners** are selected from certain stilbenedisulfonic acid salts such as 4,4'-bis[(4-anilino-6-(N-2-bishydroxyethyl)-s-triazine-2-yl)amino]-2,2'-stilbenedisulfonic acid disodium salt.
- IT 169762-28-1, Tinopal 5BM-GX
RL: MOA (Modifier or additive use); POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(laundry detergent **compns.** with dye-transfer inhibition effect)
- RN 169762-28-1 HCAPLUS
- CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[(aminomethyl)(2-hydroxyethyl)amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



● 2 Na

PAGE 1-B

— CH₂— OH

IC ICM C11D003-42
ICS C11D003-00; C11D003-37

CC 46-6 (Surface Active Agents and Detergents)

ST detergent laundry **brightener** dye transfer inhibition;
polyamine oxide dye transfer inhibition

IT Sulfonic acids, uses
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(alkylbenzene or alkyl polyethoxylated; laundry detergent **compns.** with dye-transfer inhibition effect)

IT Aluminosilicates, uses
Detergents
Enzymes
Zeolites, uses
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(laundry detergent **compns.** with dye-transfer inhibition effect)

IT Fatty acids, uses
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(C12-16; laundry detergent **compns.** with dye-transfer inhibition effect)

IT Polyoxyalkylenes, uses
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(alkyl group-terminated, laundry detergent **compns.** with dye-transfer inhibition effect)

IT Amides, uses
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(fatty, laundry detergent **compns.** with dye-transfer inhibition effect)

IT Alcohols, uses
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(fatty, ethoxylated, laundry detergent **compns.** with dye-transfer inhibition effect)

IT Detergents
(laundry, laundry detergent **compns.** with dye-transfer inhibition effect)

IT 50-70-4D, D-Glucitol, N-Me glucamides 4193-55-9, Tinopal UNPA-GX 26715-00-4, Poly(4-vinylpyridine)-N-oxide 29297-55-0, N-Vinylimidazole-N-vinylpyrrolidone copolymer 169762-28-1, Tinopal 5BM-GX
RL: MOA (Modifier or additive use); POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(laundry detergent **compns.** with dye-transfer inhibition effect)

IT 68-04-2, Trisodium citrate 77-92-9, uses 141-43-5, uses 7664-93-9D, Sulfuric acid, alkyl esters 34870-92-3D, ethers
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(laundry detergent **compns.** with dye-transfer inhibition effect)

L46 ANSWER 7 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1992:237364 HCAPLUS

DOCUMENT NUMBER: 116:237364

TITLE: Reactive pyridone azo dyes, their preparation

INVENTOR(S): and use
 RIDYARD, DENIS ROBERT ANNESLEY
 PATENT ASSIGNEE(S): Imperial Chemical Industries PLC, UK
 SOURCE: Eur. Pat. Appl., 17 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

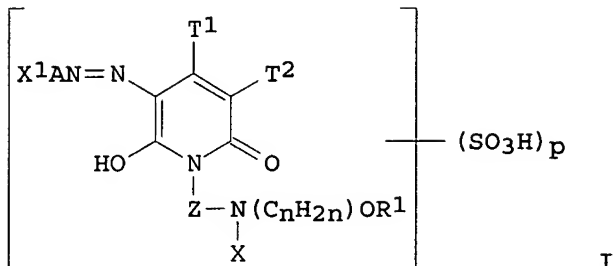
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 471454	A1	19920219	EP 1991-306588	19910719
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EP 471454	B1	19961204		
R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, NL, SE				
AT 145930	E	19961215	AT 1991-306588	19910719
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AU 9181240	A1	19920220	AU 1991-81240	19910723
<--				
AU 640032	B2	19930812		
ZA 9105810	A	19920624	ZA 1991-5810	19910724
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US 5175261	A	19921229	US 1991-739099	19910801
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BR 9103364	A	19920505	BR 1991-3364	19910805
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CA 2048767	AA	19920216	CA 1991-2048767	19910808
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FI 9103792	A	19920216	FI 1991-3792	19910809
<--				
FI 100189	B1	19971015		
NO 9103169	A	19920217	NO 1991-3169	19910814
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JP 04261158	A2	19920917	JP 1991-204139	19910814
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PRIORITY APPLN. INFO.:			GB 1990-17869	A 19900815

GB 1991-15682

199107

19

OTHER SOURCE(S) : MARPAT 116:237364
GI



AB The dyes are water-sol. I [A = (un)substituted phenylene or naphthylene; R1 = H, SO3H; T1, T2 = H, CN, CO2R2, CONR2R3, COR2, alkyl, aralkyl, cycloalkyl, aryl, heterocyclyl; R2, R3 = H, C1-6-alkyl; X = cellulose-reactive group; X1 = H, cellulose-reactive group; n = 2-6; p ≥ 1] or their salts. 3-Cyano-6-hydroxy-1-[2-(2-hydroxyethylamino)ethyl]-4-methyl-2-pyridinone was heated at 130° with 78% H2SO4 to give a .apprx.3:1 mixt. of 6-hydroxy-1-[2-(2-hydroxyethylamino)ethyl]-4-methyl-2-pyridinone and its sulfate, which was coupled with diazotized 2,1,5-H2NC10H5(SO3H)2. The product was condensed (2:1) with the 2:1 condensate of cyanuric chloride and 4,4'-diaminostilbene-2,2'-disulfonic acid to give a bis(chlorotriazine) mixt., which dyed cellulose fibers and leather fast **bright greenish yellow** shades.

IT 141281-48-3 141281-49-4 141281-50-7

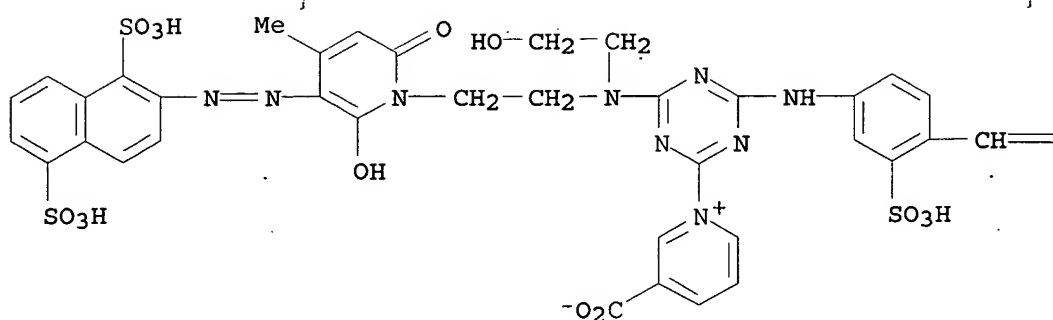
RL: USES (Uses)

(prepn. of mixts. contg., as yellow dyes for cellulosic fibers)

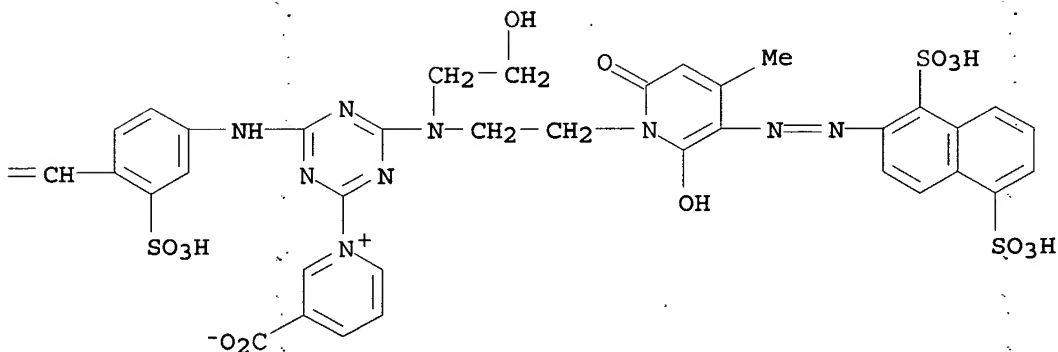
RN 141281-48-3 HCAPLUS

CN Pyridinium, 1,1'-[1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino[6-[[2-[5-[(1,5-disulfo-2-naphthalenyl)azo]-6-hydroxy-4-methyl-2-oxo-1(2H)-pyridinyl]ethyl](2-hydroxyethyl)amino]-1,3,5-triazine-4,2-diyl]]]bis[3-carboxy-, bis(inner salt) (9CI) (CA INDEX NAME)

PAGE 1-A

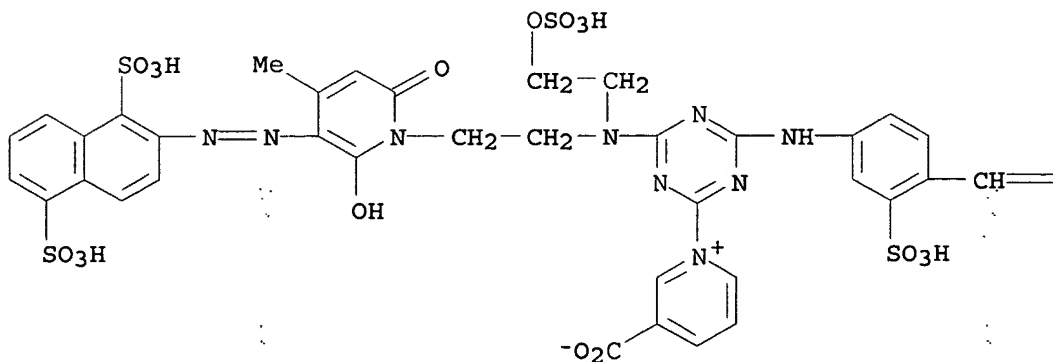


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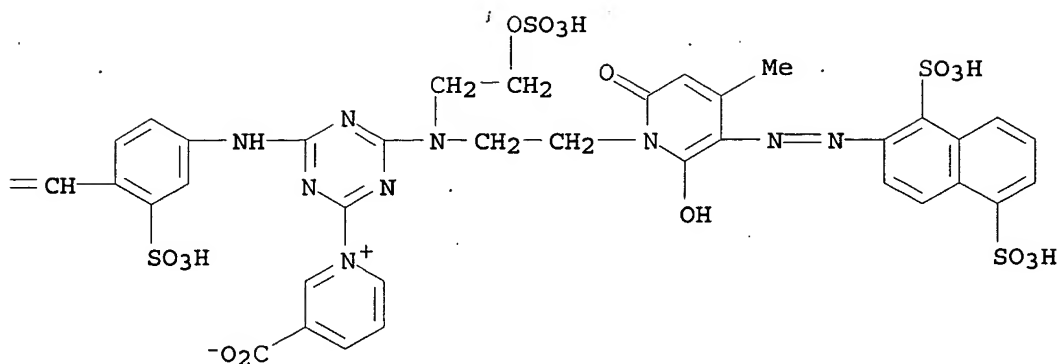


RN 141281-49-4 HCAPLUS
 CN Pyridinium, 1,1'-[1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino[6-
 [[2-[5-[(1,5-disulfo-2-naphthalenyl)azo]-6-hydroxy-4-methyl-2-oxo-
 1(2H)-pyridinyl]ethyl][2-(sulfooxy)ethyl]amino]-1,3,5-triazine-4,2-
 diyl]]]bis[3-carboxy-, bis(inner salt) (9CI) (CA INDEX NAME)

PAGE 1-A

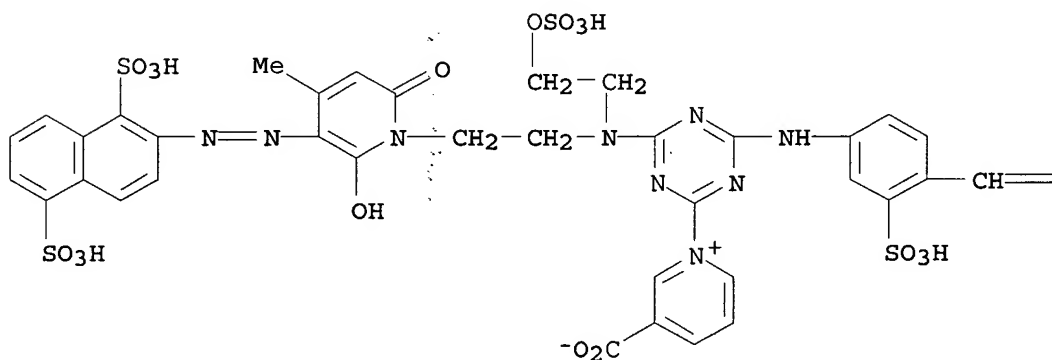


PAGE 1-B

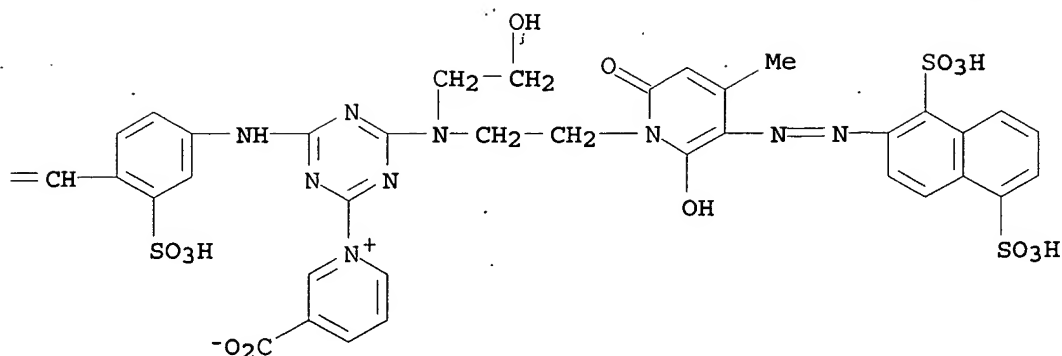


RN 141281-50-7 HCAPLUS
 CN Pyridinium, 3-carboxy-1-[4-[[4-[2-[4-[[4-(3-carboxypyridinio)-6-[[2-[5-[(1,5-disulfo-2-naphthalenyl)azo]-6-hydroxy-4-methyl-2-oxo-1(2H)-pyridinyl]ethyl](2-hydroxyethyl)amino]-1,3,5-triazin-2-yl]amino]-2-sulphophenyl]ethenyl]-3-sulphophenyl]amino]-6-[[2-[5-[(1,5-disulfo-2-naphthalenyl)azo]-6-hydroxy-4-methyl-2-oxo-1(2H)-pyridinyl]ethyl][2-(sulfooxy)ethyl]amino]-1,3,5-triazin-2-yl]-, bis(inner salt) (9CI)
 (CA INDEX NAME)

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IC ICM C09B062-006
 ICS C09B062-08; C09B062-447; C09B062-62; D06P001-382; C09B067-22
 CC 41-3 (Dyes, Organic Pigments, Fluorescent Brighteners, and
 Photographic Sensitizers)
 Section cross-reference(s): 45
 IT 141281-48-3 141281-49-4 141281-50-7
 RL: USES (Uses)
 (prepn. of mixts. contg., as yellow dyes for cellulosic
 fibers)
 IT 141301-61-3 141301-62-4 141301-63-5
 RL: USES (Uses)
 (prepn. of mixts. contg., as yellow dyes for cellulosic
 fibers and leather)

L46 ANSWER 8 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1991:249766 HCAPLUS
 DOCUMENT NUMBER: 114:249766
 TITLE: Liquid detergent compositions
 containing fluorescent
 brighteners

INVENTOR(S): Schuessler, Ulrich; Seng, Florian
 PATENT ASSIGNEE(S): Bayer A.-G., Germany
 SOURCE: Ger. Offen., 5 pp.
 CODEN: GWXXBX

DOCUMENT TYPE: Patent
 LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3922494	A1	19910117	DE 1989-3922494	198907 08
EP 413926	A1	19910227	EP 1990-111940	199006 23
JP 03045699	A2	19910227	JP 1990-172830	199007

R: CH, DE, FR, GB, IT, LI
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02

CA 2020666

AA 19910109

CA 1990-2020666

199007
06

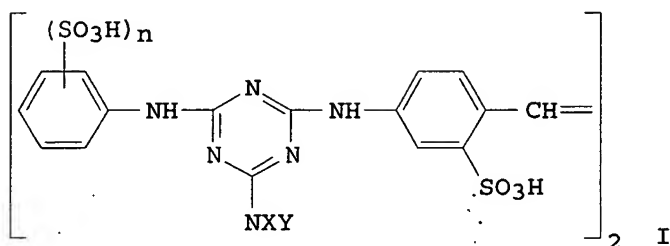
PRIORITY APPLN. INFO.:

DE 1989-3922494

A

198907
08OTHER SOURCE(S):
GI

MARFAT 114:249766



AB The title **compns.** contain nonionic and cationic surfactants and stilbene **brighteners I** (X = H, C1-4 alkyl, CH₂CH₂Z, Y; Y = ANVW; XY = CH₂CH₂NRCH₂CH₂CH₂; A = C2-6 alkylene, R1OR1; R1 = C2-6 alkylene; V, W = C1-4 alkyl optionally contg. OH or NR₂; VW = CH₂CH₂TCH₂CH₂; T = O, S, NR, CH₂; Z = OH, CN, CO₂R, CONH₂, CONR₂; R = C1-4 alkyl; n = 0-2) contg. cationic groups and impart good **brightness** and a soft feel to fabrics during laundering. A **compn.** prepd. by adding ethoxylated (10 mol) C12-14 fatty acid 18, dimethyldi(tallow alkyl)ammonium chloride 5, and H₂O .apprx.71.5 parts to a dispersion of 0.1 parts I (X = H; Y = CH₂CH₂NEt₂; n = 0) in 5.5 part EtOH was used for the laundering of soiled cotton fabrics, giving good cleaning and **brightening**.

IT 134198-37-1 134198-38-2 134198-39-3
134216-04-9 135247-38-0

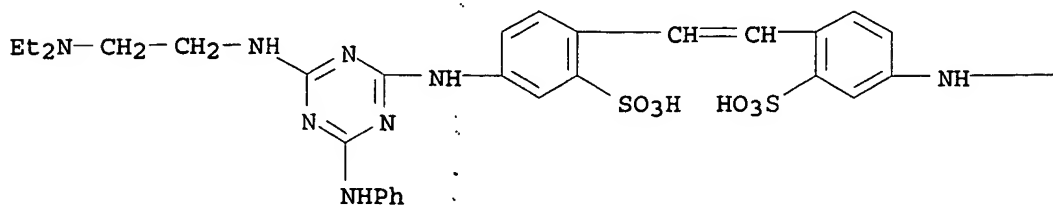
RL: USES (Uses)

(fluorescent brighteners, liq. detergent
compns. contg.)

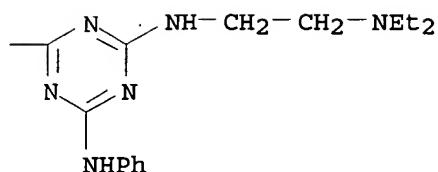
RN 134198-37-1 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[2-(diethylamino)ethyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-
(9CI) (CA INDEX NAME)

PAGE 1-A

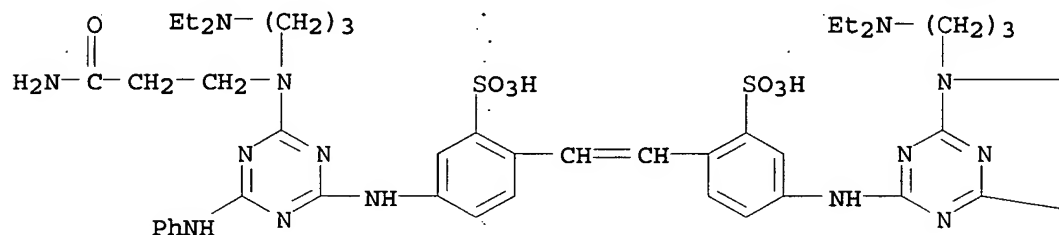


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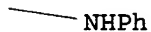
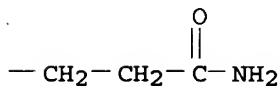


RN 134198-38-2 HCAPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[(3-amino-3-oxopropyl)[3-(diethylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

PAGE 1-A

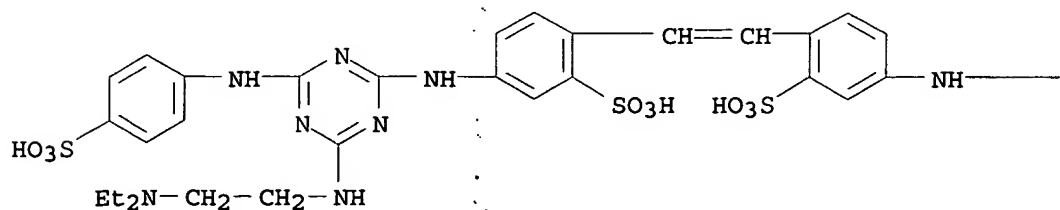


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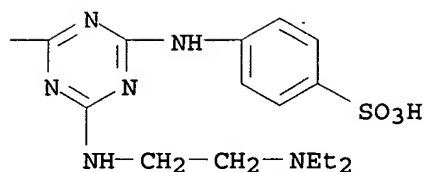


RN 134198-39-3 HCAPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[2-(diethylamino)ethyl]amino]-6-[(4-sulfophenyl)amino]-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

PAGE 1-A

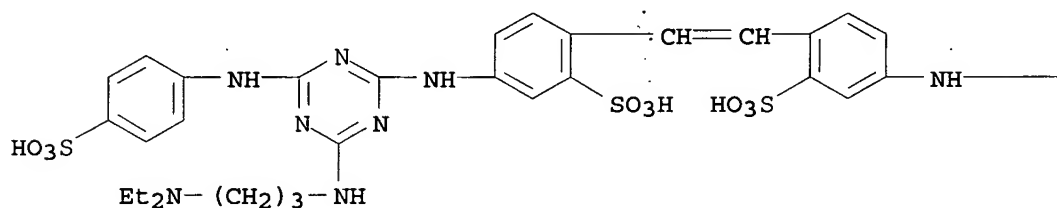


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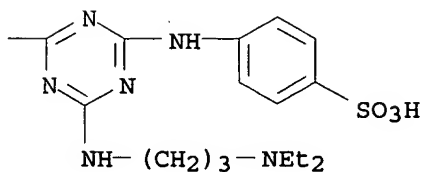


RN 134216-04-9 HCAPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(diethylamino)propyl]amino]-6-[(4-sulfophenyl)amino]-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

PAGE 1-A

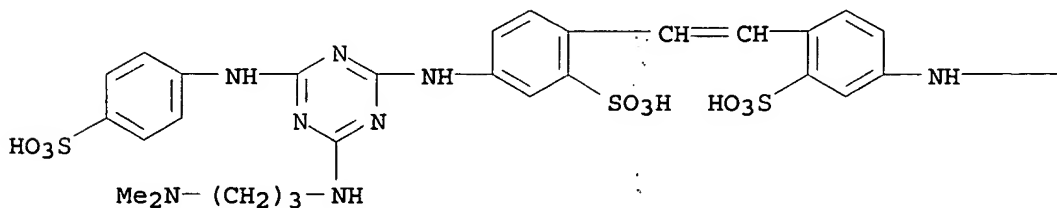


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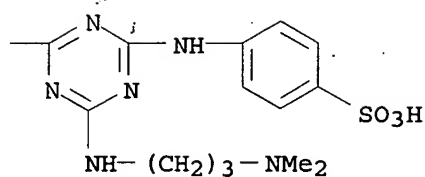


RN 135247-38-0 HCAPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(dimethylamino)propyl]amino]-6-[(4-sulfophenyl)amino]-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IC ICM C11D003-42
ICS C11D009-44; C11D017-08; C07D251-68
CC 46-5 (Surface Active Agents and Detergents)
ST stilbene fluorescent brightener liq detergent;
fluorescent brightener laundry detergent liq;
ammonium detergent liq fluorescent brightener;
nonionic detergent liq fluorescent brightener;
cationic fluorescent brightener detergent liq
IT Fatty acids, compounds
RL: USES (Uses)
(C12-14, ethoxylated, liq. laundry detergents contg.
fluorescent brighteners and)
IT Fluorescent brighteners
(cationic, stilbene-based, liq. detergent compns.
contg. cationic and nonionic surfactants and)
IT Quaternary ammonium compounds, uses and miscellaneous
RL: USES (Uses)
(dimethylditallow alkyl, chlorides, liq. laundry detergents
contg. fluorescent brighteners and)
IT Detergents
(laundry, liq., contg. cationic fluorescent
brighteners)
IT 134198-37-1 134198-38-2 134198-39-3
134216-04-9 135247-38-0
RL: USES (Uses)
(fluorescent brighteners, liq. detergent
compns. contg.)

L46 ANSWER 9 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1991:45544 HCAPLUS

DOCUMENT NUMBER: 114:45544

TITLE: Storage-stable liquid compositions
containing fluorescent
brighteners for laundering

INVENTOR(S): Chavannes, Jean Pierre; Forrer, Rolf Heinz

PATENT ASSIGNEE(S): Sandoz-Patent-G.m.b.H., Germany

SOURCE: Ger. Offen., 6 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3844341	A1	19900705	DE 1988-3844341	198812 30

MEI HUANG EIC1700 REM4B28 571-272-3952

08/17/2006

EP 376893

A2

19900704

EP 1989-810985

198912
27

EP 376893

A3

19910807

R: BE, CH, DE, FR, GB, IT, LI, NL

JP 02227497

A2

19900910

JP 1989-336815

198912
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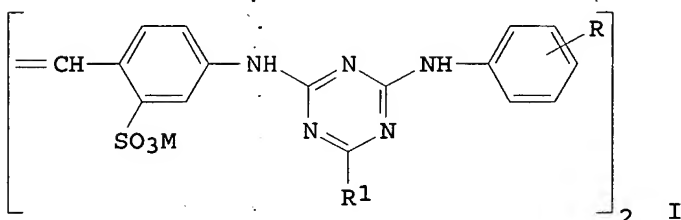
PRIORITY APPLN. INFO.:

DE 1988-3844341

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198812
30OTHER SOURCE(S):
GI

MARPAT 114:45544



AB The title **compns.**, e.g., detergents or fabric-softening **compns.**, contain **brighteners I** (R = H, halo, alkyl, SO₃M, etc.; R₁ = MeO, EtO, NR₂R₃; R₂ = C₂-3 hydroxyalkyl; R₃ = H, ZX; Z = C₂-3 alkylene; X = halo, cyano, CONH₂, C₁-2 alkoxy, OH; M = alkali metal, NH₄, alkylammonium, hydroxyalkylammonium) which resist pptn. during storage and have good affinity for fibers during laundering. A fabric-softening **compn.** for use in the rinse cycle contained I [R = H; R₁ = N(CH₂CH₂OH)C₂H₄CONH₂; M = Na] 0.1, fabric softener 6.5, propylene glycol 5, iso-PrOH 2, and H₂O 86.4%.

IT 37515-76-7

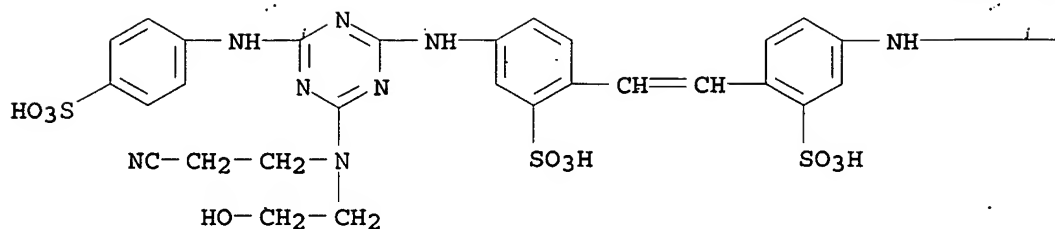
RL: USES (Uses)

(fluorescent brighteners, liq. detergents and fabric softeners contg., storage-stable)

RN 37515-76-7 HCAPLUS

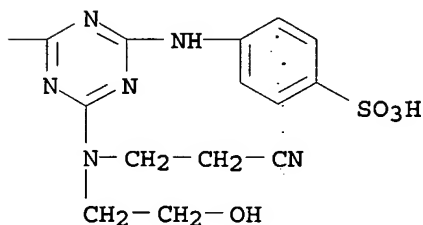
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[(2-cyanoethyl)(2-hydroxyethyl)amino]-6-[(4-sulfophenyl)amino]-1,3,5-triazin-2-yl]amino]-, tetrasodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



● 4 Na

PAGE 1-B



IC ICM C11D003-42
ICS C11D017-00; D06L003-12
ICI C11D003-42, C11D001-02, C11D001-66, C11D003-04, C11D003-37,
C11D003-26, C11D003-20
CC 46-5 (Surface Active Agents and Detergents)
Section cross-reference(s): 41
ST **fluorescent brightener liq compn** heat
stability; laundry detergent liq **fluorescent
brightener**; softener fabric liq **fluorescent
brightener**; stilbene **fluorescent
brightener liq compn**; triazine **fluorescent
brightener liq compn**
IT Softening agents
(for fabric, liq. compns. contg. **fluorescent
brighteners** and, storage-stable)
IT **Fluorescent brighteners**
(liq. detergents and fabric softeners contg., storage-stable)
IT Detergents
(laundry, liq., **fluorescent brightener**
-contg., storage-stable)
IT 16324-27-9 27344-06-5 32694-95-4 37515-76-7
61136-17-2 131588-07-3
RL: USES (Uses)
(**fluorescent brighteners**, liq. detergents and
fabric softeners contg., storage-stable)

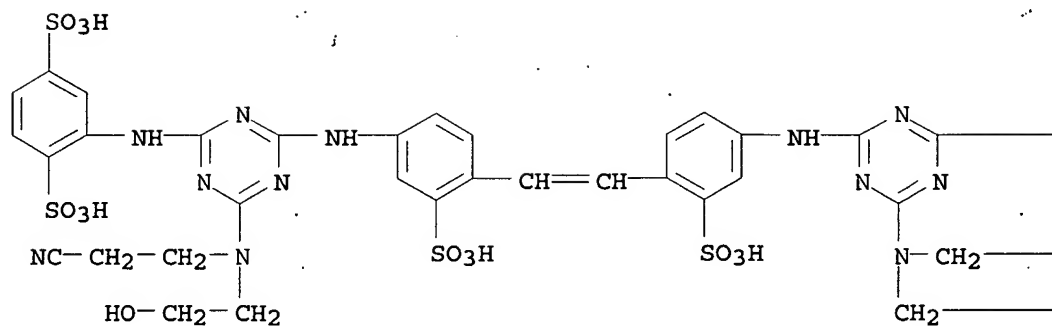
L46 ANSWER 10 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1981:67268 HCAPLUS
DOCUMENT NUMBER: 94:67268
TITLE: Studies on the synthesis and evaluation of

optical **brighteners**, derivatives of
sym-triazinylodiaminostilbene and
2,5-disulfoaniline
AUTHOR(S): Bankowski, Leszek; Higersberger, Ewa;
Rzeszowski, Jerzy
CORPORATE SOURCE: Inst. Przem. Org., Warsaw, Pol.
SOURCE: Przemysl Chemiczny (1980), 59(9),
489-91
CODEN: PRCHAB; ISSN: 0033-2496
DOCUMENT TYPE: Journal
LANGUAGE: Polish
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

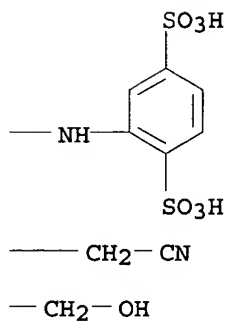
AB Twenty **fluorescent whiteners** of structure I and
constituting a **mixt.** of structures I, II, and III (R =
amine residue) were prepd. and evaluated on cellulosic fibers. Some
of the **whiteners** were suitable for **brightening**
paper. I were prepd. by reacting cyanuric chloride [108-77-0] with
aniline-2,5-disulfonic acid [98-44-2] and treating the reaction
product first with disodium 4,4'-diaminostilbene-2,2'-disulfonate
(IV) [7336-20-1] and then with a primary or secondary amine. The
whiteners constituting a **mixt.** of structures I-III
were synthesized by prepg. 2,4-dichloro-6-methoxy-1,3,5-triazine
[3638-04-8] (from cyanuric chloride and MeOH) and
2,4-dichloro-6-(2,5-disulfoanilino)-1,3,5-triazine [17752-51-1] (as
described above), and condensation of their **mixt.** with IV
and primary or secondary amines.
IT 73324-12-6P 76508-02-6P 76508-03-7P
76508-04-8P 76508-05-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, as **fluorescent brighteners** for
cellulosic fibers)
RN 73324-12-6 HCAPLUS
CN 1,4-Benzenedicarboxylic acid, 2,2'-[1,2-ethenediylbis[(3-sulfo-4,1-
phenylene)imino[6-[(2-cyanoethyl)(2-hydroxyethyl)amino]-1,3,5-
triazine-4,2-diyl]imino]]bis-, hexasodium salt (9CI) (CA INDEX
NAME)

PAGE 1-A



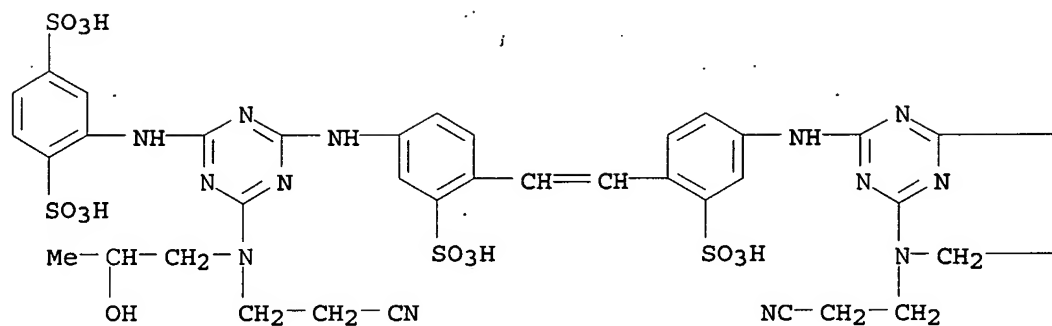
● 6 Na

PAGE 1-B



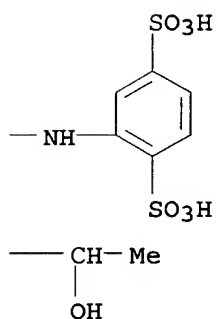
RN 76508-02-6 HCAPLUS
 CN 1,4-Benzenedisulfonic acid, 2,2'-[1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino[6-[(2-cyanoethyl)(2-hydroxypropyl)amino]-1,3,5-triazine-4,2-diyl]imino]]bis-, hexasodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



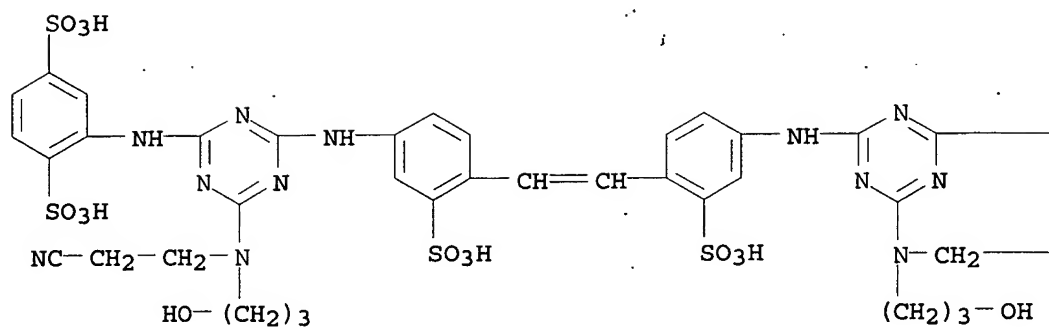
● 6 Na

PAGE 1-B



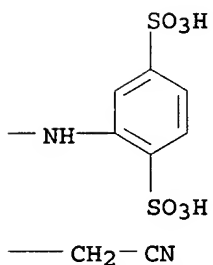
RN 76508-03-7 HCAPLUS
 CN 1,4-Benzenedisulfonic acid, 2,2'-[1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino[6-[(2-cyanoethyl)(3-hydroxypropyl)imino]-1,3,5-triazine-4,2-diyl]imino]]bis-, hexasodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



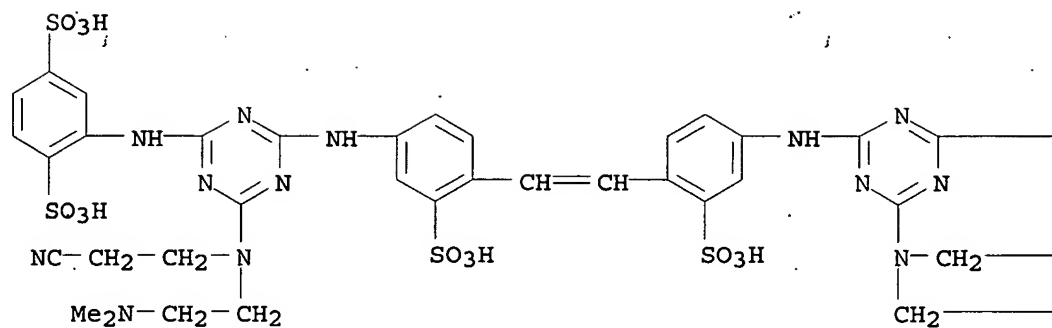
● 6 Na

PAGE 1-B



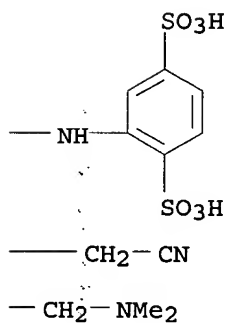
RN 76508-04-8 HCAPLUS
 CN 1,4-Benzenedisulfonic acid, 2,2'-[1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino[6-[(2-cyanoethyl)[2-(dimethylamino)ethyl]amino]-1,3,5-triazine-4,2-diyl]imino]]bis-, hexasodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



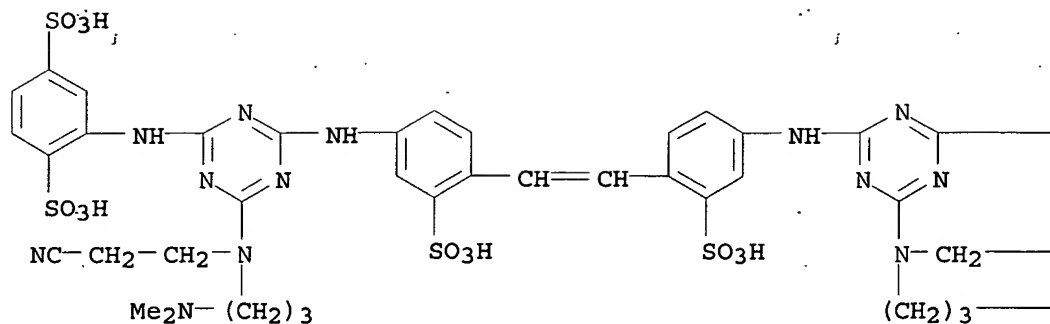
● 6 Na

PAGE 1-B



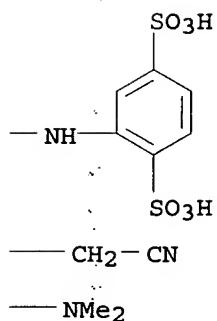
RN 76508-05-9 HCAPLUS
 CN 1,4-Benzenedisulfonic acid, 2,2'-[1,2-ethenediylbis[(3-sulfo-4,1-phenylene) imino[6-[(2-cyanoethyl) [3-(dimethylamino)propyl] imino]-1,3,5-triazine-4,2-diyl]imino]]bis-, hexasodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



● 6 Na

PAGE 1-B



CC 40-11 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)

ST fluorescent whitener paper; sulfoaniline deriv
 fluorescent whitener; triazinylstilbene deriv
 fluorescent brightener; stilbene triazinylamino
 fluorescent brightener; cellulosic textile
 fluorescent whitener

IT Fluorescent brighteners
 (bis(triazinylodiamino)stilbene disulfoaniline derivs., prepn.
 and evaluation of, on cellulosic fibers)

IT Paper
 (fluorescent brighteners for,
 bis(triazinylodiamino)stilbene disulfoaniline derivs. as)

IT 5108-90-7 73301-96-9 73301-98-1 73309-77-0 73309-79-2
 76508-06-0 76508-07-1 76508-08-2 76508-09-3 76508-10-6
 76508-12-8 76508-13-9 76508-14-0

RL: USES (Uses)
 (fluorescent brighteners contg., prepn. and
 evaluation of, on cellulosic fibers)

IT 3969-41-3P 4470-72-8P 16395-73-6P 25778-91-0P 31773-47-4P
 41098-56-0P 52819-66-6P 52871-53-1P 68971-49-3P
 73324-12-6P 76508-00-4P 76508-01-5P 76508-02-6P
 76508-03-7P 76508-04-8P 76508-05-9P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, as fluorescent brighteners for
cellulosic fibers)

L46 ANSWER 11 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1980:606520 HCAPLUS

DOCUMENT NUMBER: 93:206520

TITLE: Colorless fluorescent
whiteners from
bis(triazinylamino)stilbenedisulfonic acid
compounds

INVENTOR(S): Uhl, Klaus; Frischkorn, Hans; Martini, Thomas

PATENT ASSIGNEE(S): Hoechst A.-G., Fed. Rep. Ger.

SOURCE: Ger. Offen., 13 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

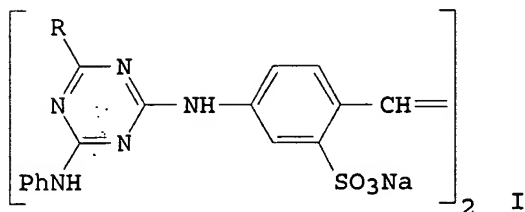
LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2902975	A1	19800807	DE 1979-2902975	197901 26
EP 13981	A1	19800806	EP 1980-100346	198001 23
US 4271036	A	19810602	US 1980-114665	198001 23
JP 55099963	A2	19800730	JP 1980-7003	198001 25
PRIORITY APPLN. INFO.:				DE 1979-2902975 A 197901 26

GI



AB The green or yellow-green modifications of I (R = NMeCH₂CH₂OH) (II)
[13863-31-5], I (R = morpholino) [16090-02-1], and 4 similar

fluorescent whiteners are heated with an alkoxylate to prep. white compns. which are added to detergent slurries and spray dried to prep. powd. detergents with a desirable white color. Thus, 231 g ethoxylated (25 mol) tallow alcs. and 19 g II were heated at 80-90° for 90 min and allowed to stand until white II crystals formed. The suspension was cooled and milled with CO₂(s) to prep. a white powder suitable for addn. to detergent slurries.

IT 75544-51-3

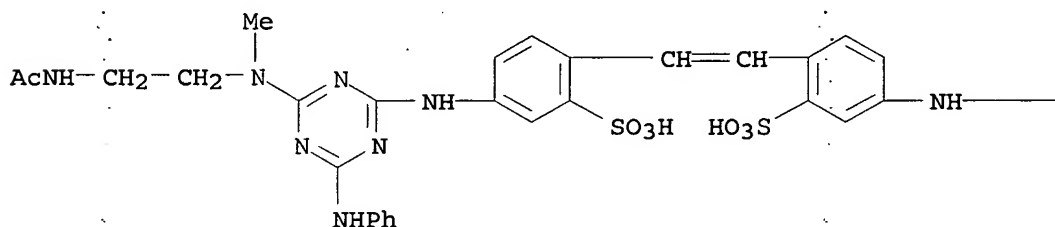
RL: USES (Uses)

(fluorescent brighteners, decolorization of, by heating with alkoxylates)

RN 75544-51-3 HCAPLUS

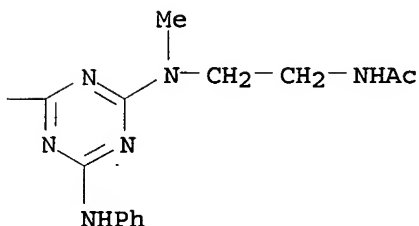
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[2-(acetylamino)ethyl]methylamino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



● 2 Na

PAGE 1-B



IC D06L003-12

CC 46-5 (Surface Active Agents and Detergents)

Section cross-reference(s): 40

ST triazinylaminostilbenesulfonate whitener decolorization;
fluorescent whitener stilbene decolorization;
alkoxylate decolorization fluorescent whitener;
nonionic surfactant decolorization

IT Decolorization

(of fluorescent brighteners by heating with alkoxylates)

IT Fluorescent brighteners

(triazinylaminostilbenesulfonate derivs., decolorization of, by

heating with alkoxylates)
 IT Detergents
 (nonionic, decolorization of **fluorescent brighteners** by heating with)
 IT 75-21-8D, reaction products with ethylenediamine and propylene oxide
 75-56-9D, reaction products with ethylenediamine and ethylene oxide
 107-15-3D, alkoxylated 9003-11-6 9004-98-2 9005-00-9
 9016-45-9 9043-30-5 25322-68-3 25322-68-3D, monoalkyl ethers
 26636-37-3 58205-99-5
 RL: USES (Uses)
 (decolorization of **fluorescent brighteners** by heating with)
 IT 13863-31-5 16090-02-1 28950-65-4 52435-15-1 **75544-51-3**
 75544-52-4
 RL: USES (Uses)
 (**fluorescent brighteners**, decolorization of, by heating with alkoxylates)

L46 ANSWER 12 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1980:515942 HCAPLUS

DOCUMENT NUMBER: 93:115942

TITLE: Color-stable **fluorescent whitener** for washing composition

INVENTOR(S): Martini, Thomas; Mengler, Helmut; Hohlfeld, Guenther; Hohlfeld, Guenther

PATENT ASSIGNEE(S): Hoechst A.-G., Fed. Rep. Ger.

SOURCE: Ger. Offen., 14 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

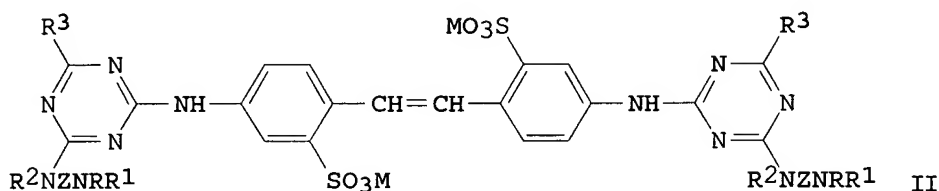
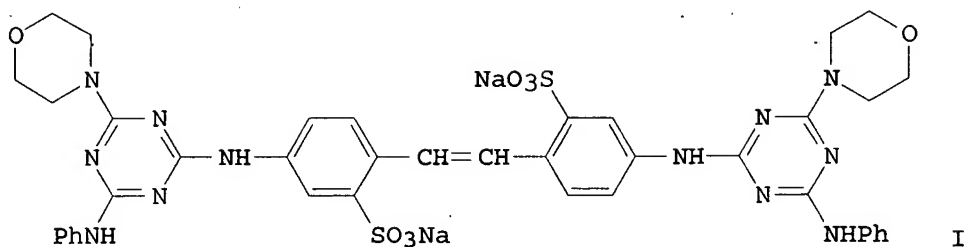
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2850382	A1	19800604	DE 1978-2850382	19781121
US 4263176	A	19810421	US 1979-94830	19791116
JP 55073794	A2	19800603	JP 1979-149618	19791120
GB 2036821	A	19800702	GB 1979-40054	19791120
FR 2442267	A1	19800620	FR 1979-28701	19791121
FR 2442267	B1	19811016		
PRIORITY APPLN. INFO.:			DE 1978-2850382	A 19781121

GI

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AB The tendency of **fluorescent whitener I** [16090-02-1] to turn greenish during contact with secondary alkanesulfonates, esp. in detergent **compsns.** during storage in moist air at elevated temp., is inhibited by mixing I with **whiteners** of general structure II, where M = alkali metal, R = C2-9 alkanoyl, C1-5 alkylsulfonyl, C4-8 cycloalkylsulfonyl, PhSO2, or MeC6H4SO2, R1 = H or C1-5 alkyl, Z = C3-6 alkylene, R2 = H, C1-5 alkyl, C4-8 cycloalkyl, or ZNRR1, and R3 = PhNH, ClC6H4NH, or morpholino. Further improvement is obtained by treating I with poly(vinyl alc.) [9002-89-5] prior to mixing with II. Thus, a **mixt.** of 0.07 g I (70%, standardized with NaCl) and 0.42 g II (R = Ac, R1 = H, Z = CH2CH2CH2, R2 = Me, R3 = PhNH) (III) [56125-26-9] (50%, standardized with NaCl) was stirred with 20 g aq. slurry contg. 60% C13-18 alkanesulfonate. No greening of the **compn.** was obsd. after several wk, whereas in the absence of III a green color formed in 2-3 days.

IT 56125-21-4 56125-26-9 74723-97-0

74723-98-1 74723-99-2 74724-00-8

74724-01-9 74724-02-0

RL: USES (Uses)

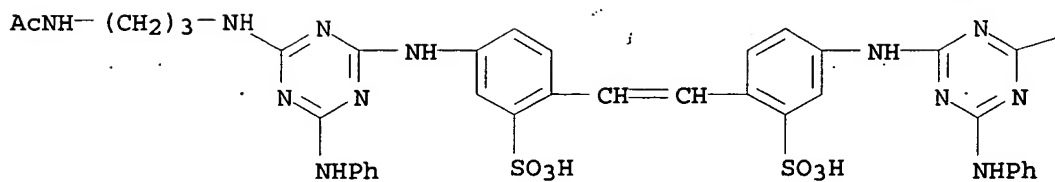
(fluorescent brightener mixt.

contg., for prevention of greening during contact with alkanesulfonate)

RN 56125-21-4 HCAPLUS

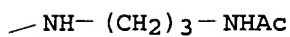
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(acetylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



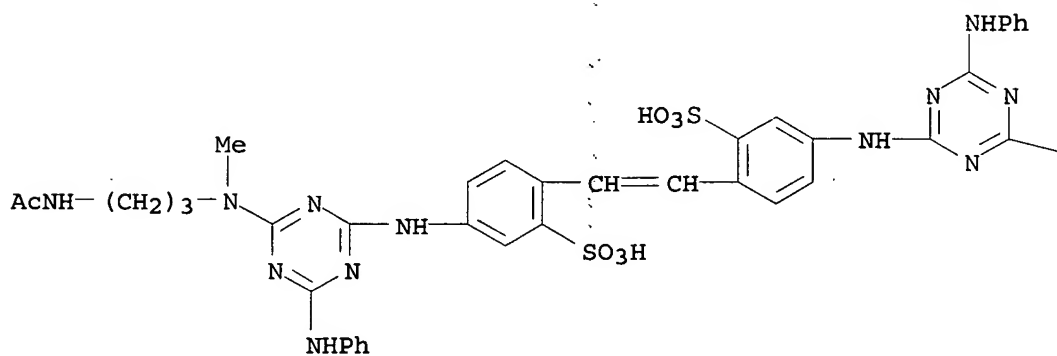
●2 Na

PAGE 1-B



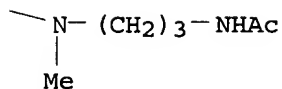
RN 56125-26-9 HCAPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(acetylamino)propyl]methylamino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



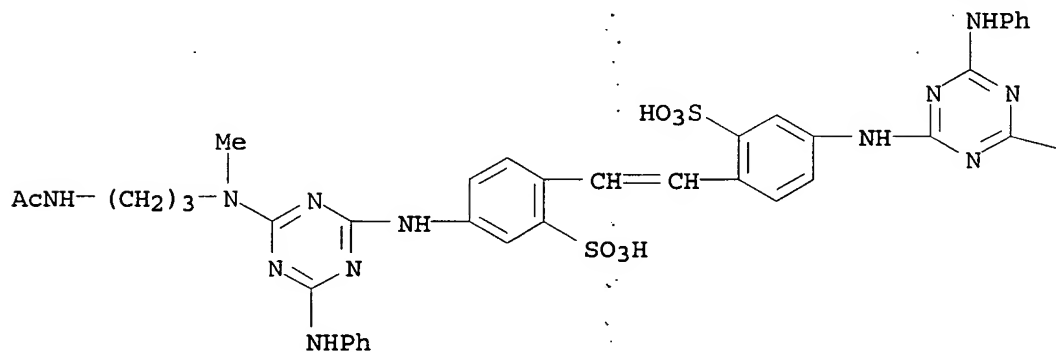
●2 Na

PAGE 1-B

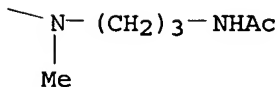


RN 74723-97-0 HCAPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(acetylamino)propyl]methylamino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

PAGE 1-A

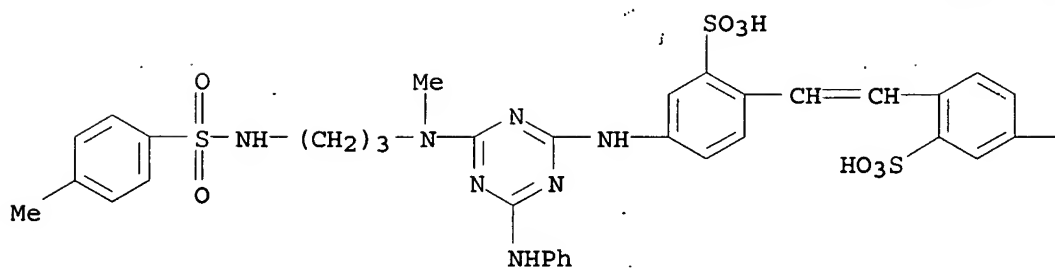


PAGE 1-B



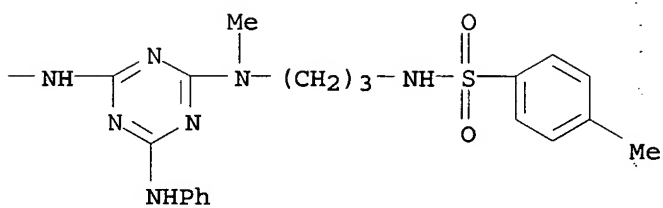
RN 74723-98-1 HCAPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[methyl[3-[[4-(4-methylphenyl)sulfonyl]amino]propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



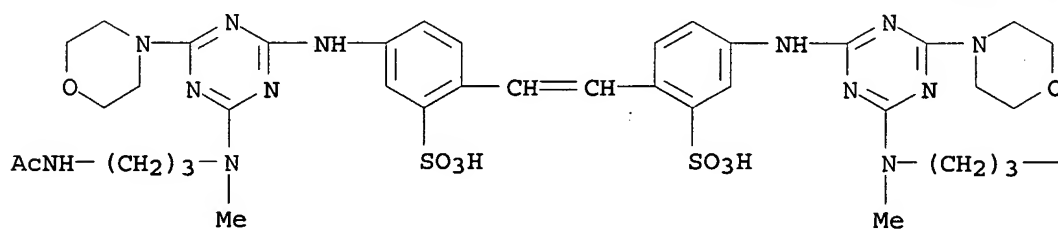
● 2 Na

PAGE 1-B



RN 74723-99-2 HCAPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(acetylamino)propyl]methylamino]-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



● 2 Na

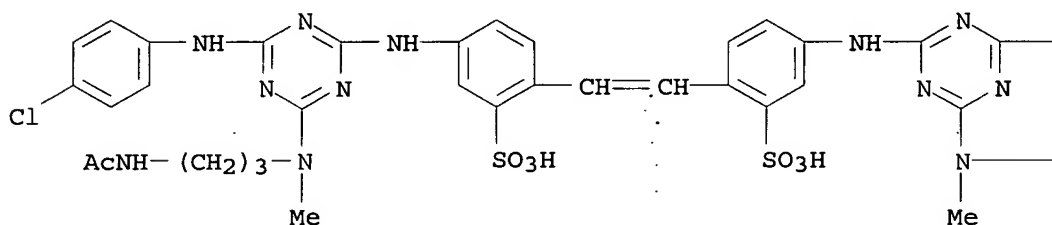
PAGE 1-B

—NHAc

RN 74724-00-8 HCAPLUS

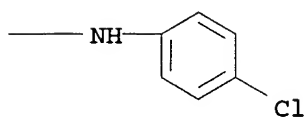
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(acetylamino)propyl]methylamino]-6-[(4-chlorophenyl)amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



● 2 Na

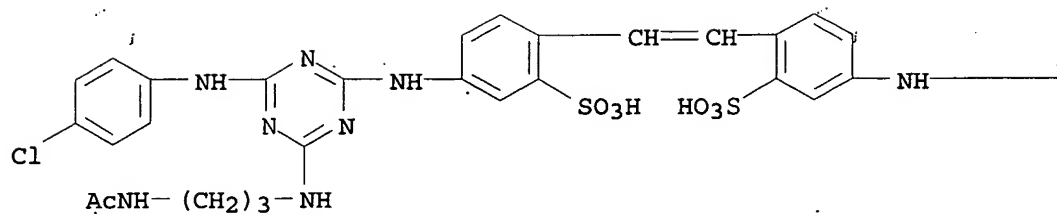
PAGE 1-B

—(CH₂)₃—NHAc

RN 74724-01-9 HCAPLUS

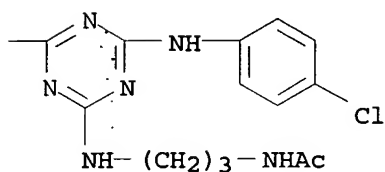
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(acetylamino)propyl]amino]-6-[(4-chlorophenyl)amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



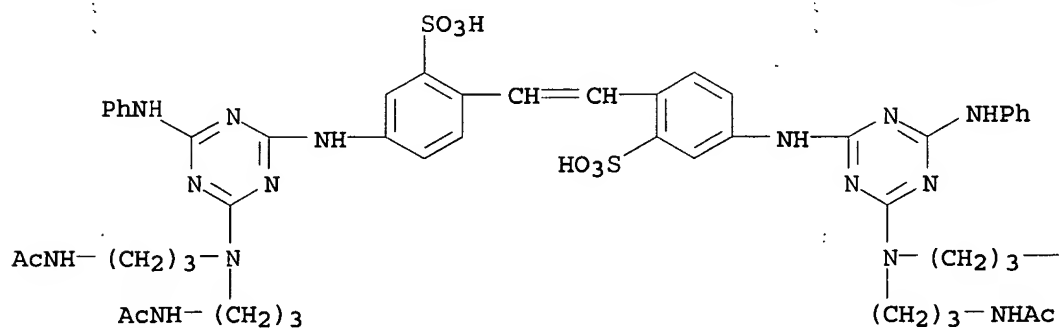
●2 Na

PAGE 1-B



RN 74724-02-0 HCAPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[bis[3-(acetylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

PAGE 1-B

—NHAC

IC D06L003-12
CC 40-11 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)
Section cross-reference(s): 46
ST greening inhibitor **fluorescent whitener**;
stilbene **fluorescent whitener** greening;
discoloration prevention **fluorescent whitener**;
alkanesulfonate greening **fluorescent whitener**;
detergent greening **fluorescent whitener**
IT Detergents
(alkanesulfonates, stilbene **fluorescent**
brightener greening by, prevention of)
IT **Fluorescent brighteners**
(bis[(anilinomorpholinotriazinyl)amino]stilbenedisulfonate,
greening of, in contact with alkanesulfonate, prevention of)
IT 56125-21-4 56125-26-9 74723-97-0
74723-98-1 74723-99-2 74724-00-8
74724-01-9 74724-02-0
RL: USES (Uses)
(**fluorescent brightener** mixt.
contg., for prevention of greening during contact with
alkanesulfonate)
IT 9002-89-5 9003-20-7D, hydrolyzed
RL: USES (Uses)
(stilbene **fluorescent brightener** treatment
with, for prevention of greening during contact with
alkanesulfonate)

L46 ANSWER 13 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1980:148526 HCAPLUS

DOCUMENT NUMBER: 92:148526

TITLE: The sym-triazine derivative **fluorescent**
brightenersINVENTOR(S): Rzeszowski, Jerzy; Baltorowicz, marian;
Bankowski, Leszek; Higersberger, Ewa; Szteke,
Barbara; Graczyk, Bernard; Bielski, Mieczyslaw;
Synak, Jerzy

PATENT ASSIGNEE(S): Instytut Przemyslu Organicznego, Pol.

SOURCE: Pol., 4 pp.
CODEN: POXXA7

DOCUMENT TYPE: Patent

LANGUAGE: Polish

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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MEI HUANG EIC1700 REM4B28 571-272-3952

08/17/2006

PL 103437

P

19790630

PL 1976-193660

197611

11

PRIORITY APPLN. INFO.:

PL 1976-193660

A

197611

11

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The I-II-III mixts., where R is NHCH₂CH₂OH, N(CH₂CH₂CN)CH₂CH₂OH, NH₂, NH₂t, morpholino, or NHPH, were found to be better brighteners for textiles or paper than I or II. Also the prepn. of mixts. was technol. simpler than the prepn. of pure I, II or III. Thus 4,6-dichloro-2-methoxy-s-triazine [3638-04-8]-4,6-dichloro-2-(2,5-disulfophenylamino)-s-triazine [17752-51-1] mixt., prepd. in situ, was reacted at pH 5-8 with di-Na 4,4'-diaminostilbene-2,2'-disulfonate [7336-20-1]. The resulting mixt. of monochlorides was reacted with monoethanolamine [141-43-5] to give I-II-III mixt. with R = NHCH₂CH₂OH which could be used to brighten cellulosic fibers in acidic solns.

IT 73324-12-6

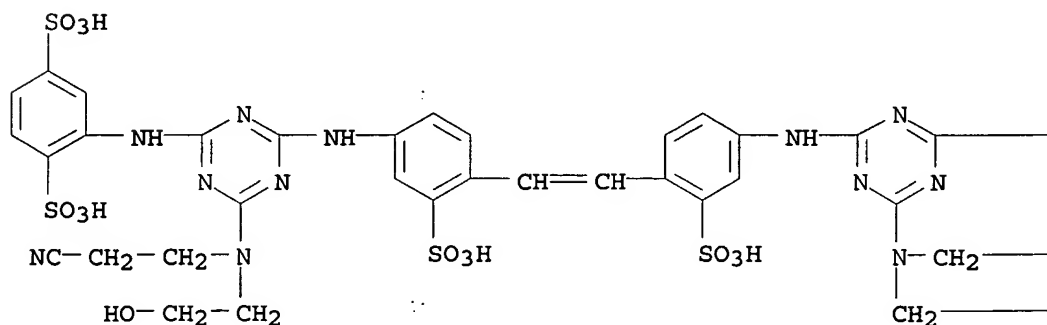
RL: USES (Uses)

(fluorescent brighteners, for paper or textiles)

RN 73324-12-6 HCAPLUS

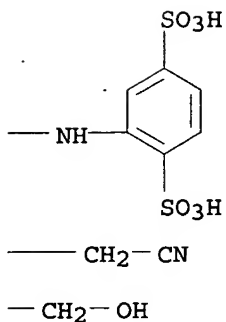
CN 1,4-Benzenedicarboxylic acid, 2,2'-[1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino[6-[(2-cyanoethyl)(2-hydroxyethyl)amino]-1,3,5-triazine-4,2-diyl]imino]]bis-, hexasodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



● 6 Na

PAGE 1-B



IC D06L003-12
 CC 40-11 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)
 Section cross-reference(s): 43
 ST **fluorescent brightener triazine mixt;**
textile brightener triazine deriv; paper
brightener triazine deriv; triazinylaminostilbenesulfonate
mixt fluorescent brightener
 IT Paper
 (fluorescent brighteners for, mixts
 . of bis(triazinylamino)stilbenedisulfonate derivs.)
 IT **Fluorescent brighteners**
 (mixts. of bis(triazinylamino)stilbenedisulfonate
 derivs., for paper and textiles)
 IT 3426-43-5 3969-41-3 5108-90-7 16395-73-6 25778-91-0
 26858-67-3 27074-79-9 31773-47-4 52301-70-9 52871-53-1
 73301-96-9 73301-97-0 73301-98-1 73309-76-9 73309-77-0
 73309-78-1 73309-79-2 73324-12-6
 RL: USES (Uses)
 (fluorescent brighteners, for paper or
 textiles)
 IT 62-53-3, reactions 75-04-7, reactions 110-91-8, reactions
 141-43-5, reactions 7664-41-7, reactions 33759-44-3
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with mixt. of disodium
 bis(chlorotriazinylamino)stilbenedisulfonate derivs.)

L46 ANSWER 14 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1979:524889 HCAPLUS
 DOCUMENT NUMBER: 91:124889
 TITLE: Azido group-containing
 bistriazinylaminostilbenes
 INVENTOR(S): Suzuki, Kazuaki
 PATENT ASSIGNEE(S): Showa Chemical Industries, Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 54024885	A2	19790224	JP 1977-89206	

MEI HUANG EIC1700 REM4B28 571-272-3952

08/17/2006

197707
27JP 59045016
PRIORITY APPLN. INFO.:

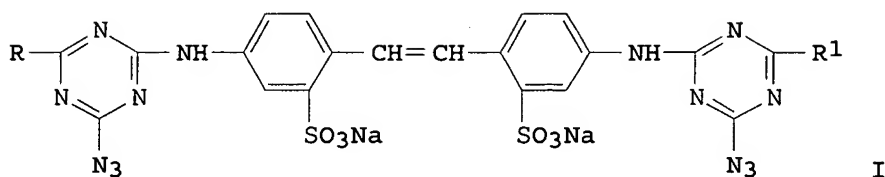
B4 19841102

JP 1977-89206

A

197707
27

GI



AB About 40 N3 group-contg. aminostilbenes I (R, R1 = NHCHMe2, NHCH2CHMeOH, N(CH2CH2OH)2, OMe, OPh, etc.) or their mixts., useful as fluorescent whitening agents when compounded with poly(vinyl alc.) etc., were prepd. from 4,4'-diaminostilbene-2,2'-disulfonic acid (II) [81-11-8]. Thus, II was dissolved in aq. Na2CO3 and added to cyanuric chloride [108-77-0] in aq. Me2CO at 0-5°. The mixt. was treated first with Et2NH at 30° and then NaN3 at 80-100° to give I (R = R1 = NEt2) [71256-55-8]. Thirty-five other sym. I and 4 unsym. I were also prepd.

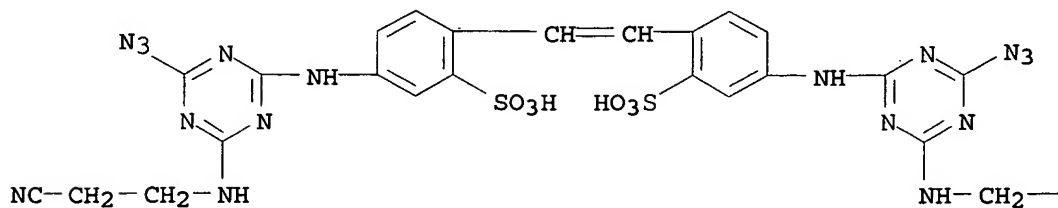
IT 71256-31-0P 71256-33-2P 71256-34-3P
71256-35-4P

RL: PREP (Preparation)
(manuf. of, for use as fluorescent brightener)

RN 71256-31-0 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-azido-6-[(2-cyanoethyl)amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI)
(CA INDEX NAME)

PAGE 1-A



● 2 Na

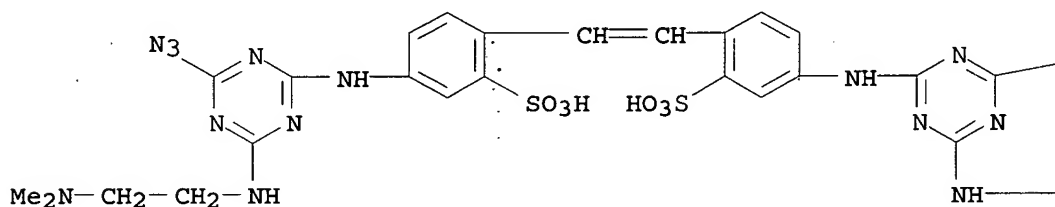
PAGE 1-B

—CH₂—CN

RN 71256-33-2 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-azido-6-[[2-(dimethylamino)ethyl]amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



● 2 Na

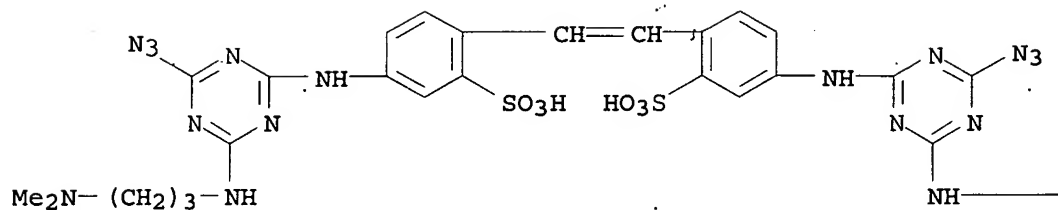
PAGE 1-B

—N₃—CH₂—CH₂—NMe₂

RN 71256-34-3 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-azido-6-[[3-(dimethylamino)propyl]amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



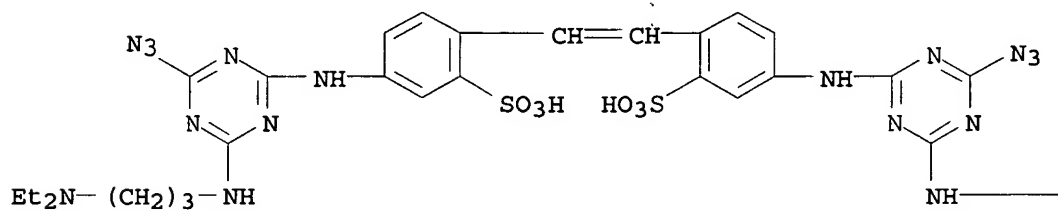
●2 Na

PAGE 1-B

— (CH₂)₃-NMe₂

RN 71256-35-4 HCAPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-azido-6-[[3-(diethylamino)propyl]amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

PAGE 1-B

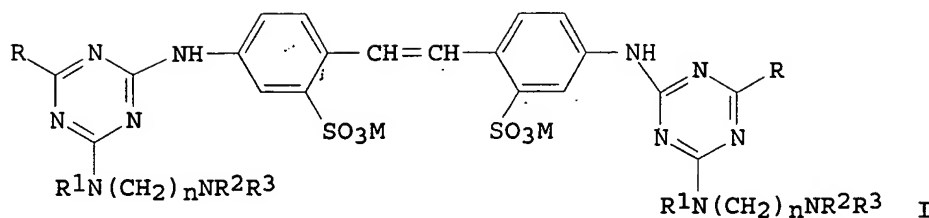
— (CH₂)₃-NEt₂

IC C07D251-50; C07D251-52; C07D251-68; C07D413-14
CC 40-11 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)
ST azido fluorescent whitener; stilbene azide
fluorescent whitener; aminostilbene
fluorescent whitener; triazinylaminostilbene
fluorescent whitener
IT Fluorescent brighteners
(azido group-contg. bis(triazinylamino)stilbenes)
IT Functional groups
(azido, bis(triazinylamino)stilbene fluorescent
brighteners contg.)
IT Azides
RL: USES (Uses)
(heterocyclic, fluorescent brighteners)
IT 71256-51-4 71256-52-5 71256-53-6 71256-54-7
RL: USES (Uses)
(fluorescent brightener mixts.
contg., manuf. of)
IT 71247-44-4P 71247-45-5P 71247-46-6P 71247-47-7P 71247-48-8P
71247-49-9P 71256-23-0P 71256-24-1P 71256-25-2P 71256-26-3P
71256-27-4P 71256-28-5P 71256-29-6P 71256-30-9P
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71256-34-3P 71256-35-4P 71256-36-5P
71256-37-6P 71256-38-7P 71256-39-8P 71256-40-1P 71256-41-2P
71256-42-3P 71256-43-4P 71256-44-5P 71256-45-6P 71256-46-7P
71256-47-8P 71256-48-9P 71256-49-0P 71256-50-3P 71256-55-8P
71280-91-6P
RL: PREP (Preparation)
(manuf. of, for use as fluorescent brightener
)

L46 ANSWER 15 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1979:458707 HCAPLUS
DOCUMENT NUMBER: 91:58707
TITLE: Bis(triazinylamino)stilbenedisulfonic acid
derivatives
INVENTOR(S): Mengler, Helmut; Schinzel, Erich; Roesch,
Guenter
PATENT ASSIGNEE(S): Hoechst A.-G., Fed. Rep. Ger.
SOURCE: Patentschrift (Switz.), 12 pp. Division of Swiss
603,878.
CODEN: SWXXAS
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CH 610312	A	19790412	CH 1977-2490	197309 21
CH 7313558	A4	19770831	CH 1973-13558	197309 21
CH 603878	B	19780831		

CH 603606	A	19780831	CH 1977-13451	197309 21
NL 7412250	A	19750325	<-- NL 1974-12250	197409 16
US 3951965	A	19760420	<-- US 1974-506985	197409 18
DD 114842	C	19750820	<-- DD 1974-181207	197409 19
IT 1022132	A	19780320	<-- IT 1974-27491	197409 19
JP 50059420	A2	19750522	<-- JP 1974-107863	197409 20
BR 7407858	A0	19750729	<-- BR 1974-7858	197409 20
CA 1044233	A1	19781212	<-- CA 1974-209718	197409 20
FR 2244765	A1	19750418	<-- FR 1974-31960	197409 23
FR 2244765 GB 1489595	B1 A	19781124 19771019	<-- GB 1974-41388	197409 23
PRIORITY APPLN. INFO.:			<-- CH 1973-13558	A 197309 21
			<-- CH 1977-2490	A 197309 21
GI			<--	



AB **Fluorescent whiteners** (I; R = amino, substituted amino, cyclic amino; R1, R4, R5 = H, optionally substituted (nonchromophoric) C1-20 alkyl, C4-6 cycloalkyl, or Ph; R2 = COR4, SO2R5, CO2R4, CONHR4, C(S)NHR4; R3 = CO2R4, R4; R2R3N = cyclic amino; M = H, colorless cation; n = 2-6) are prepd. by condensing 4,4'-diaminostilbene-2,2'-disulfonic acid [81-11-8] 1, cyanuric chloride [108-77-0] 2, R1NH(CH2)nNR2R3 2, and RH 2 mol. Thus, I (R = PhNH, R1 = R3 = H, R2 = CHO, M = Na, n = 3) [56125-47-4] was prepd.; λ_{\max} 355 m μ , ϵ 6.27 + 104. I were used in detergent formulations to whiten cotton and polyamide textiles.

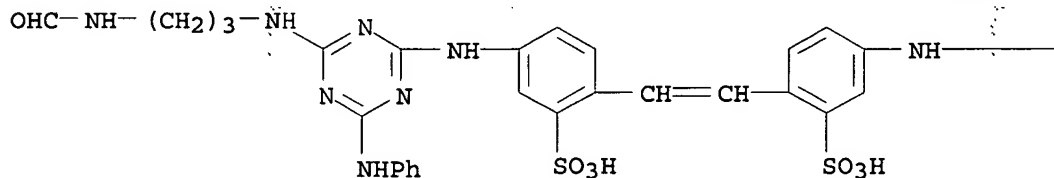
IT 56125-47-4P

RL: IMF (Industrial manufacture); PREP (Preparation) (fluorescent brightener, prepn. and spectral properties of)

RN 56125-47-4 HCAPLUS

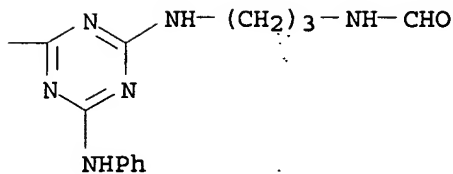
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(formylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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● 2 Na

PAGE 1-B



IT 56125-09-8 56125-10-1 56125-11-2
56125-12-3 56125-15-6 56125-16-7

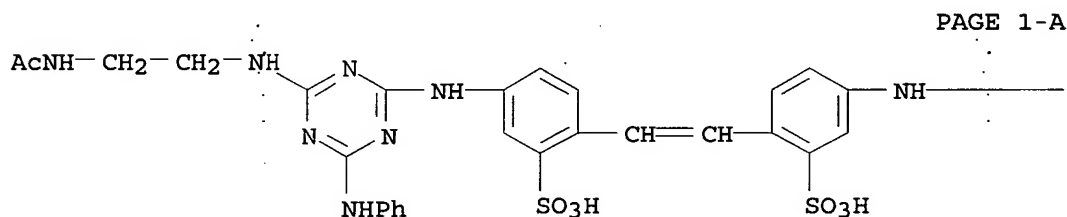
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 57038-69-4 70862-31-6 70862-32-7

RL: USES (Uses)

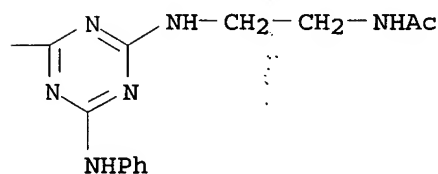
(fluorescent brightener, spectral properties
 of)

RN 56125-09-8 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[2-(acetylamino)ethyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-
 (9CI) (CA INDEX NAME)



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RN 56125-10-1 HCAPLUS

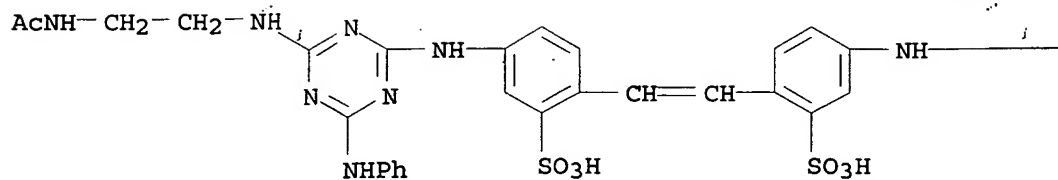
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[2-(acetylamino)ethyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-
 , compd. with 2,2',2''-nitrilotris[ethanol] (1:2) (9CI) (CA INDEX
 NAME)

CM 1

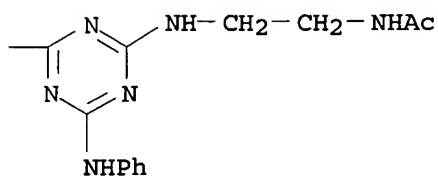
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CMF C40 H42 N14 O8 S2

PAGE 1-A



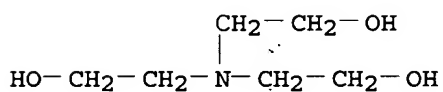
PAGE 1-B



CM 2

CRN 102-71-6

CMF C6 H15 N O3



RN 56125-11-2 HCAPLUS

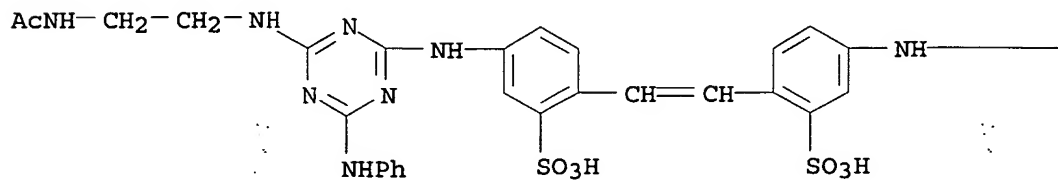
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[2-(acetylamino)ethyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, compd. with N,N-diethylethanamine (1:2) (9CI) (CA INDEX NAME)

CM 1

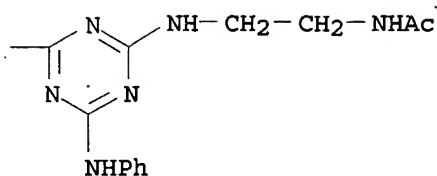
CRN 56125-09-8

CMF C40 H42 N14 O8 S2

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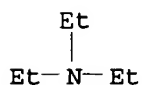
PAGE 1-B



CM 2

CRN 121-44-8

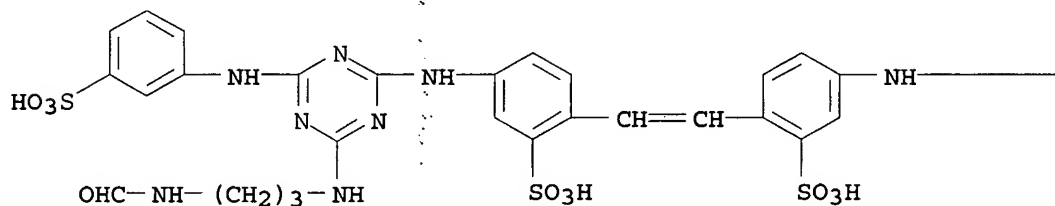
CMF C6 H15 N



RN 56125-12-3 HCAPLUS

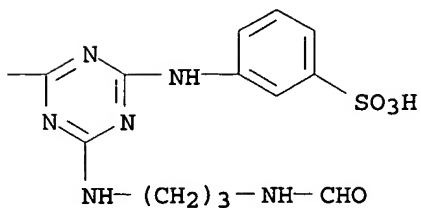
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(formylamino)propyl]amino]-6-[(3-sulfophenyl)amino]-1,3,5-triazin-2-yl]amino]-, tetrasodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



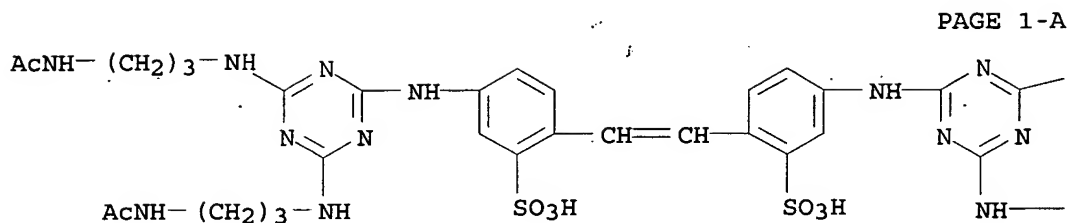
●₄ Na

PAGE 1-B



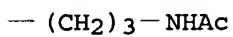
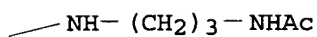
RN 56125-15-6 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[4,6-bis[[3-(acetyl-amino)propyl]amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME).



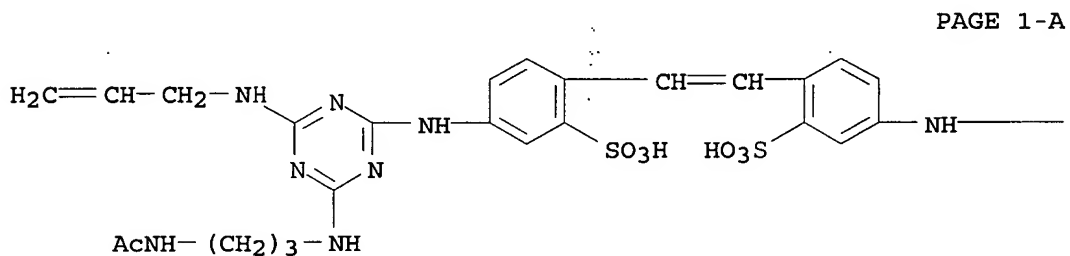
●2 Na

PAGE 1-B



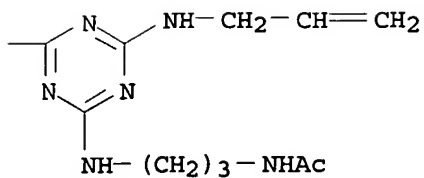
RN 56125-16-7 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(acetamino)propyl]amino]-6-(2-propenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



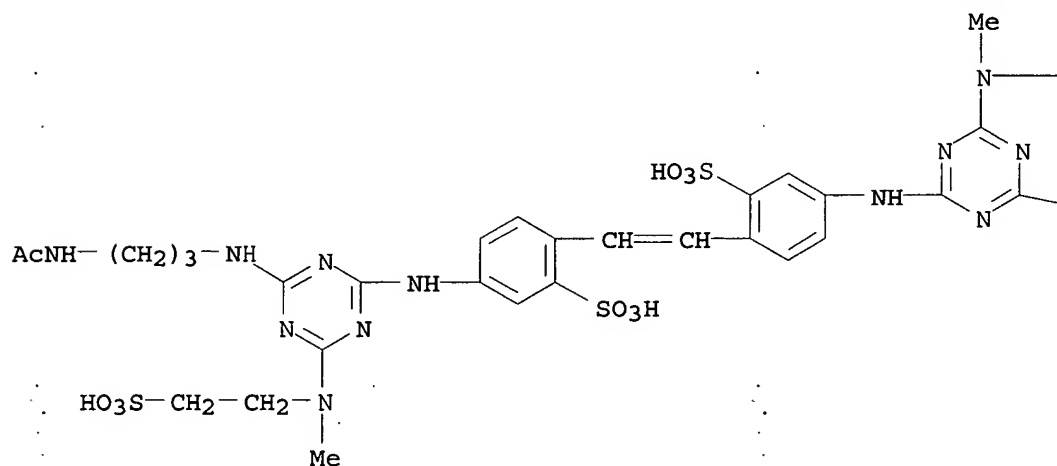
●2 Na

PAGE 1-B



RN 56125-17-8 HCAPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(acetylamino)propyl]amino]-6-[methyl(2-sulfoethyl)amino]-1,3,5-triazin-2-yl]amino]-, tetrasodium salt (9CI) (CA INDEX NAME)

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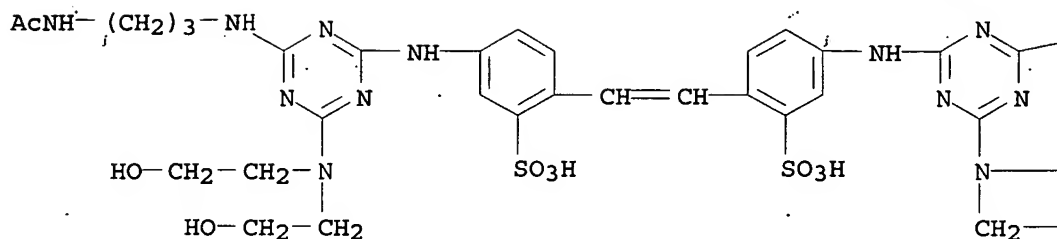
● 4 Na

PAGE 1-B

—CH₂—CH₂—SO₃HNH—(CH₂)₃—NHAc

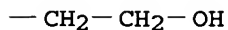
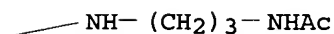
RN 56125-18-9 HCAPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(acetylamino)propyl]amino]-6-[bis(2-hydroxyethyl)amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



● 2 Na

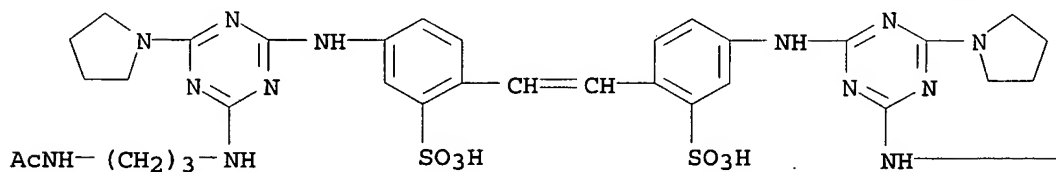
PAGE 1-B



RN 56125-19-0 HCAPLUS

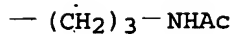
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(acetylamino)propyl]amino]-6-(1-pyrrolidinyl)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



● 2 Na

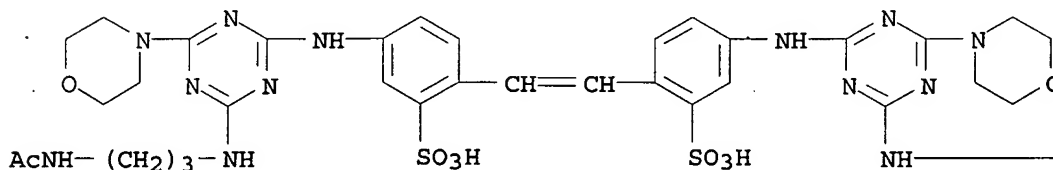
PAGE 1-B



RN 56125-20-3 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(acetylamino)propyl]amino]-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



● 2 Na

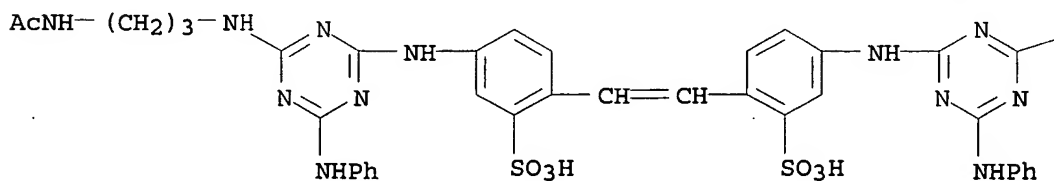
PAGE 1-B

— (CH₂)₃—NHAc

RN 56125-21-4 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(acetylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



● 2 Na

PAGE 1-B

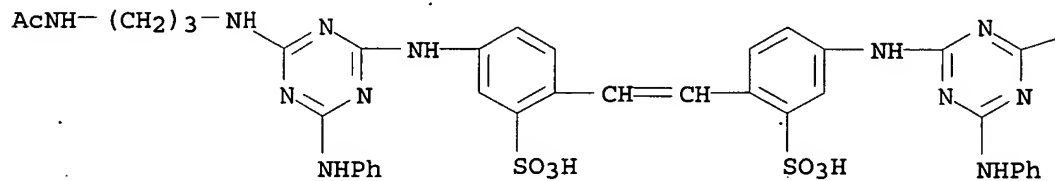
—NH—(CH₂)₃—NHAc

RN 56125-22-5 HCAPLUS

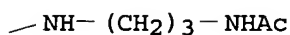
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-

(acetylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-
(9CI) (CA INDEX NAME)

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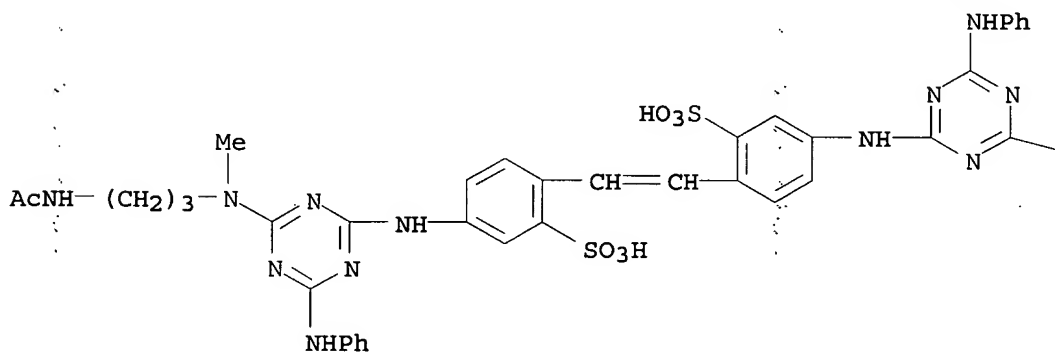
PAGE 1-B



RN 56125-26-9 HCAPLUS

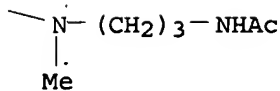
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(acetylamino)propyl]methylamino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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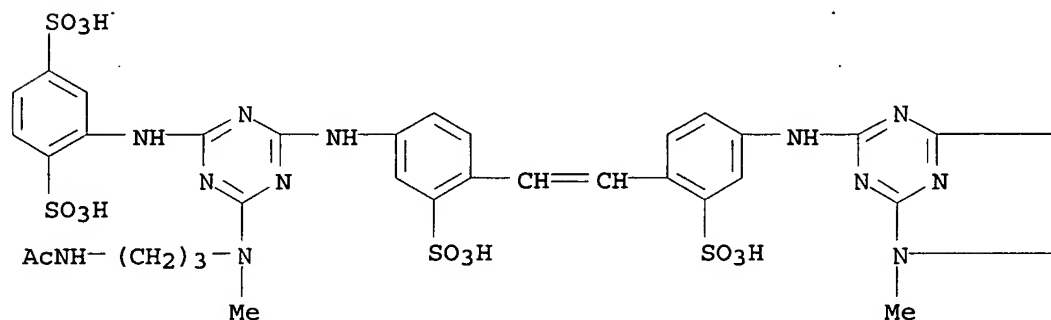
● 2 Na

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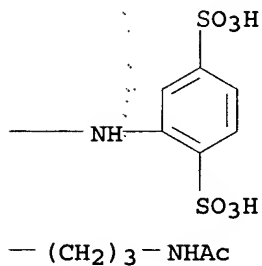
RN 56125-27-0 HCAPLUS
 CN 1,4-Benzenedisulfonic acid, 2,2'-[1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino[6-[[3-(acetamino)propyl]methylamino]-1,3,5-triazine-4,2-diyl]imino]]bis-, hexasodium salt (9CI) (CA INDEX NAME)

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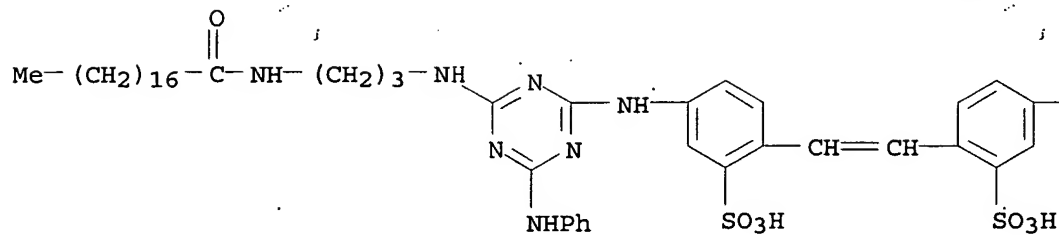
●6 Na

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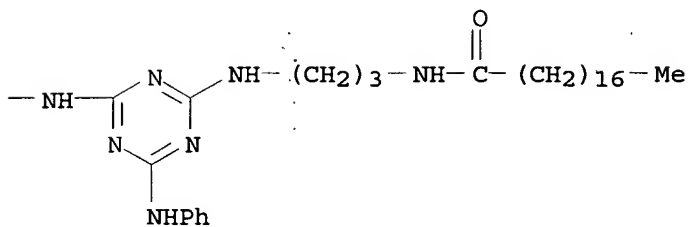
RN 56125-29-2 HCAPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-[(1-oxooctadecyl)amino]propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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●2 Na

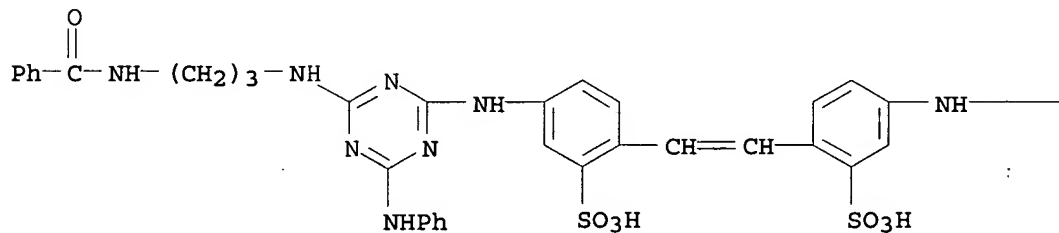
PAGE 1-B



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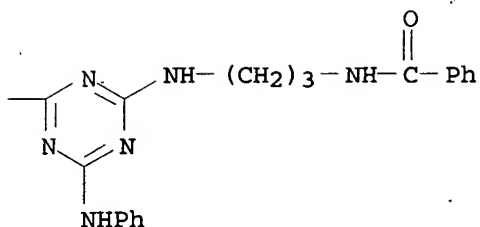
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(benzoylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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●2 Na

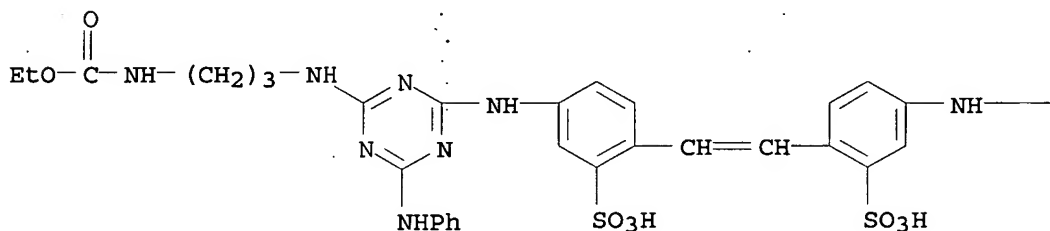
PAGE 1-B



RN 56125-31-6 HCAPLUS

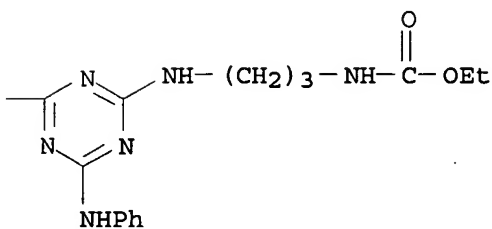
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-[(ethoxycarbonyl)amino]propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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● 2 Na

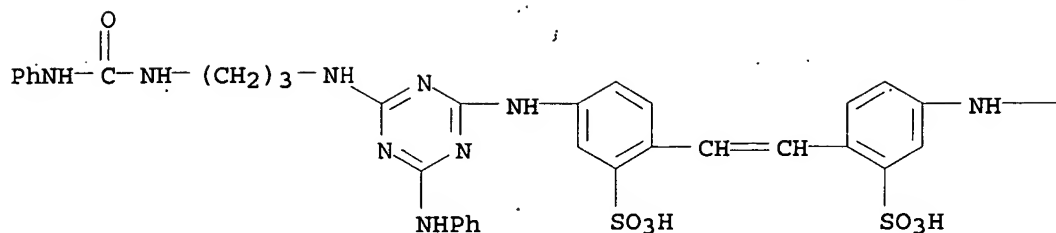
PAGE 1-B



RN 56125-32-7 HCAPLUS

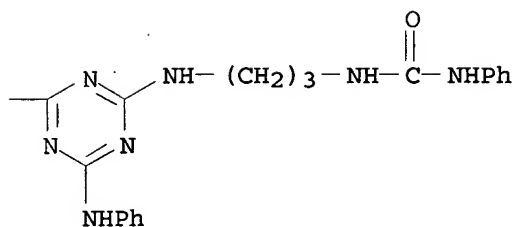
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-(phenylamino)-6-[[3-[[3-[(phenylamino)carbonyl]aminopropyl]amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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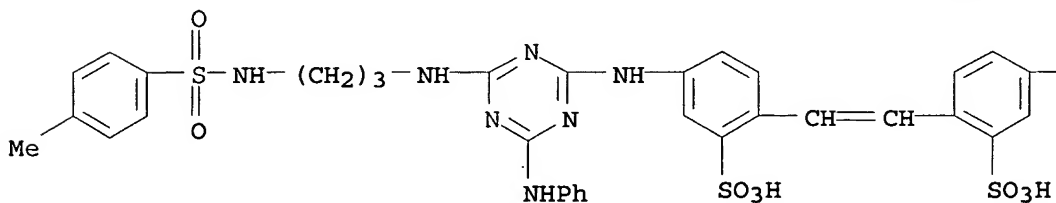
● 2 Na

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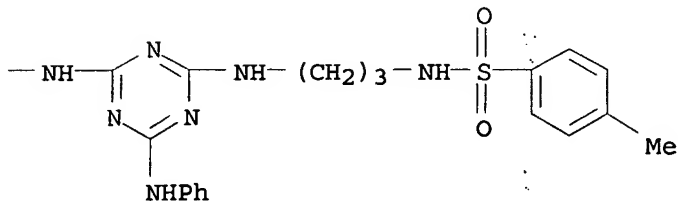


RN 56125-33-8 HCAPLUS
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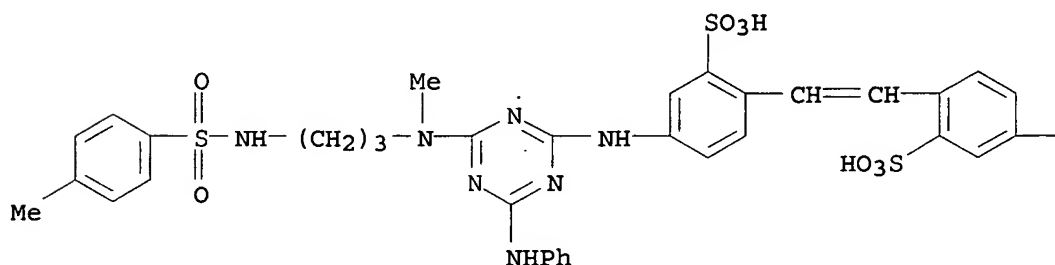
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MEI HUANG EIC1700 REM4B28 571-272-3952

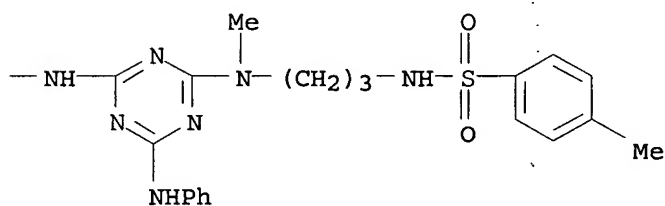
08/17/2006

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[methyl[3-[(4-methylphenyl)sulfonyl]amino]propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

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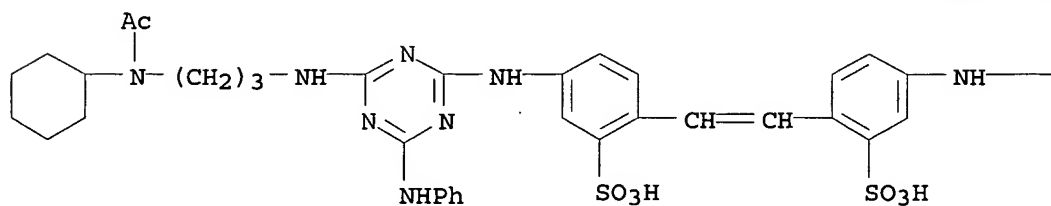
PAGE 1-B



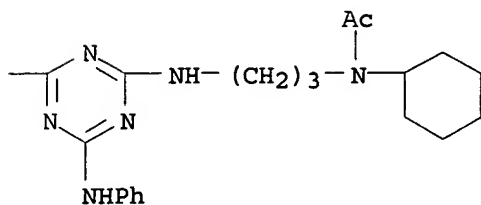
RN 56125-35-0 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[(3-(acetylcyclohexylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

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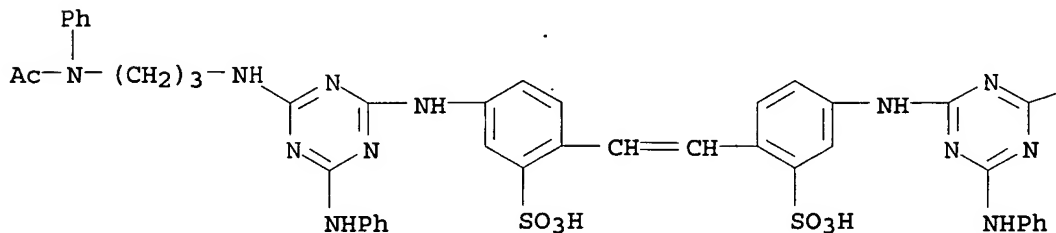


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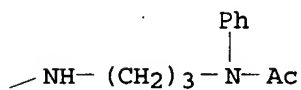


RN 56125-36-1 HCAPLUS
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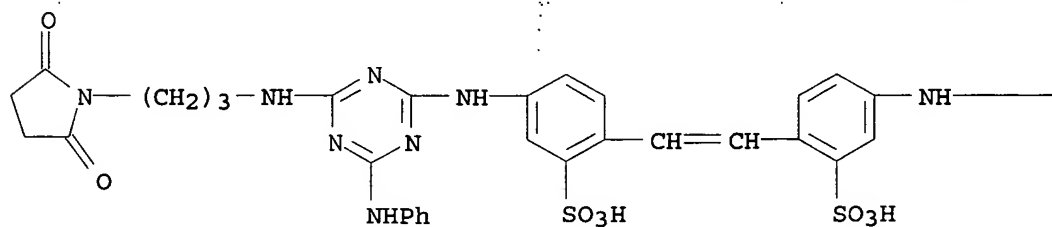


PAGE 1-B



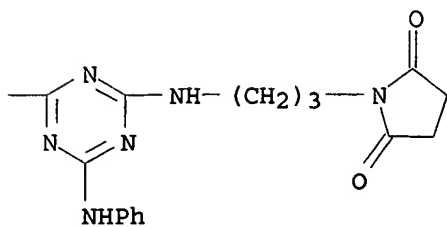
RN 56125-37-2 HCAPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(2,5-dioxo-1-pyrrolidinyl)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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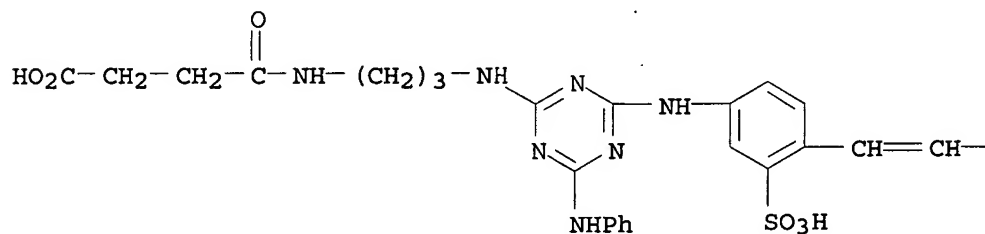
● 2 Na

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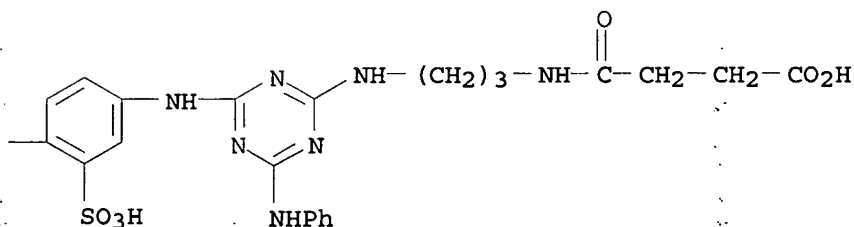
RN 56125-38-3 HCAPLUS
 CN Butanoic acid, 4,4'-[1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino[6-(phenylamino)-1,3,5-triazine-4,2-diyl]imino-3,1-propanediylimino]]bis[4-oxo-, tetrasodium salt (9CI) (CA INDEX NAME)

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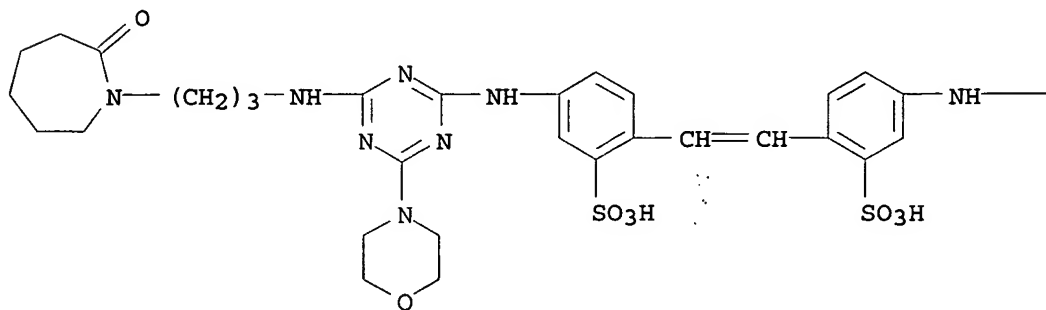
●4 Na

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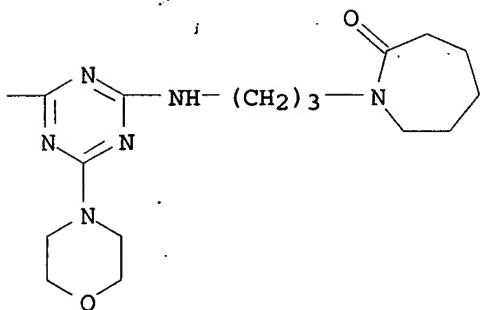


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 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(hexahydro-2-oxo-1H-azepin-1-yl)propyl]amino]-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

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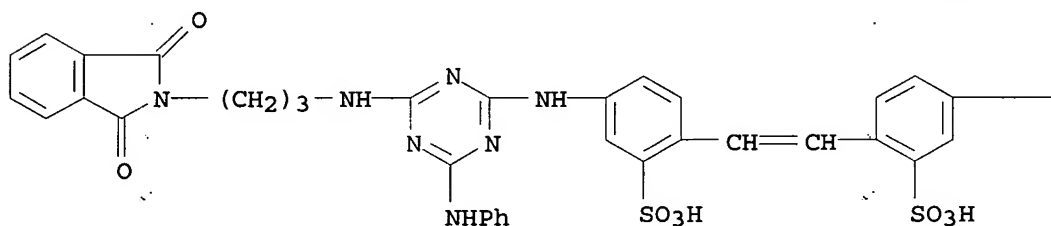


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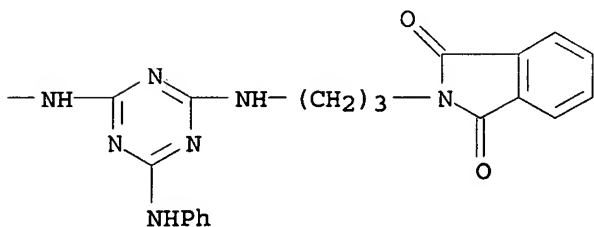
RN 56125-40-7 HCAPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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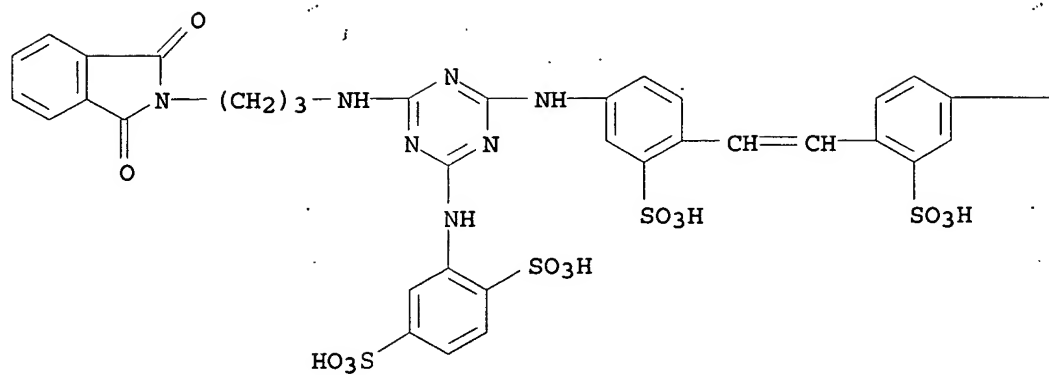
● 2 Na

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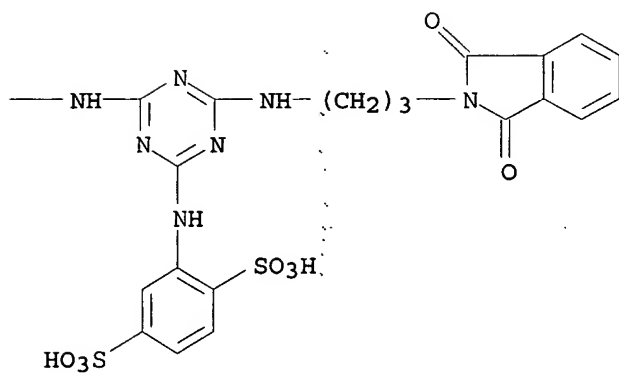
RN 56125-41-8 HCAPLUS
 CN 1,4-Benzenedisulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, hexasodium salt (9CI) (CA INDEX NAME)

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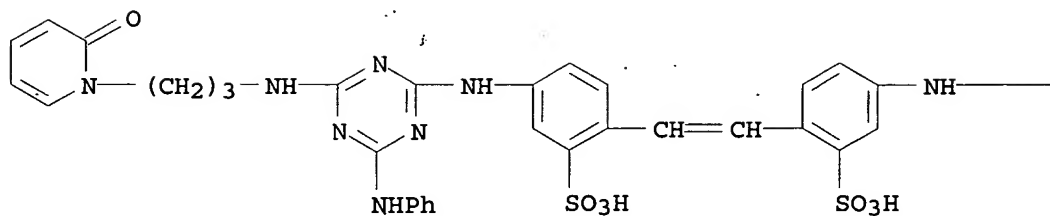
● 6 Na

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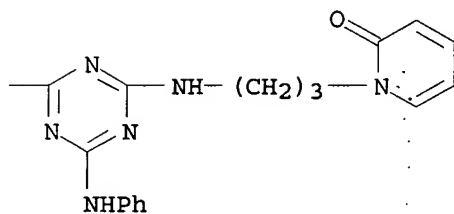
RN 56125-42-9 HCAPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(2-oxo-1(2H)-pyridinyl)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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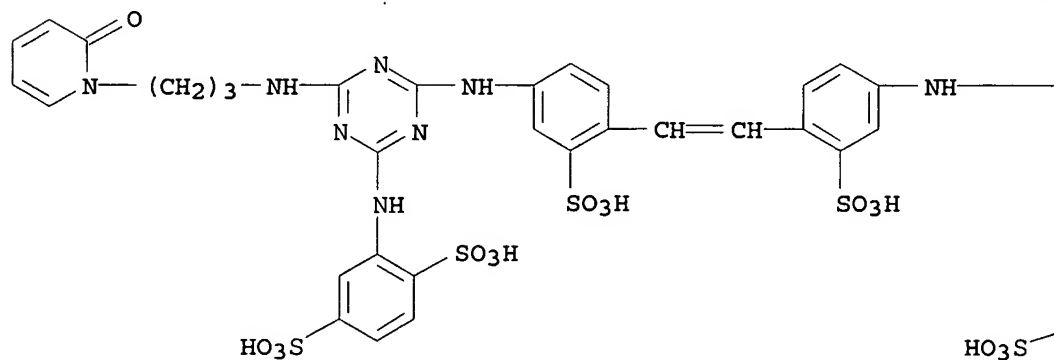
● 2 Na

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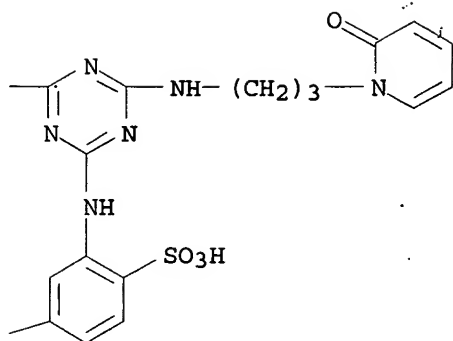
RN 56125-43-0 HCAPLUS
 CN 1,4-Benzenedisulfonic acid, 2,2'-[1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino[6-[[3-(2-oxo-1(2H)-pyridinyl)propyl]amino]-1,3,5-triazine-4,2-diyl]imino]]bis-, hexasodium salt (9CI) (CA INDEX NAME)

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● 6 Na

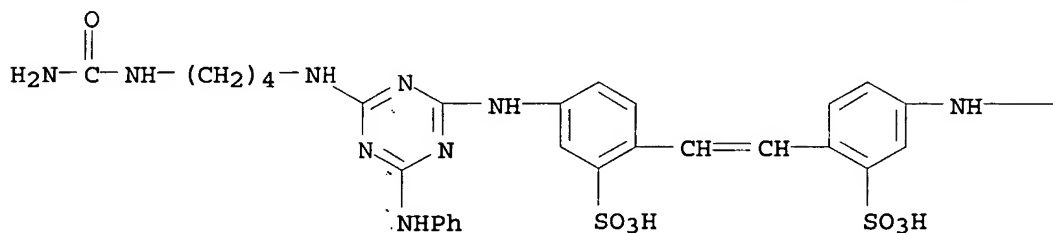
PAGE 1-B



RN 56125-44-1 HCAPLUS

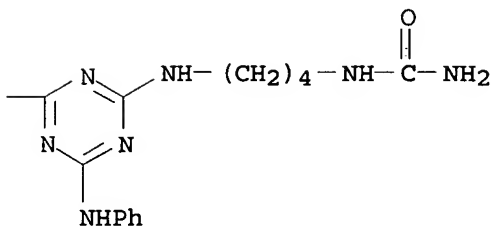
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[4-
[(aminocarbonyl)amino]butyl]amino]-6-(phenylamino)-1,3,5-triazin-2-
yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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● 2 Na

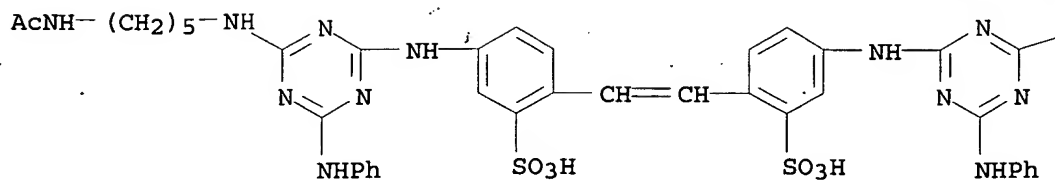
PAGE 1-B



RN 56125-45-2 HCAPLUS

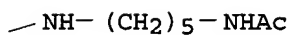
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[5-
(acetylamino)pentyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-
, disodium salt (9CI) (CA INDEX NAME)

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● 2 Na

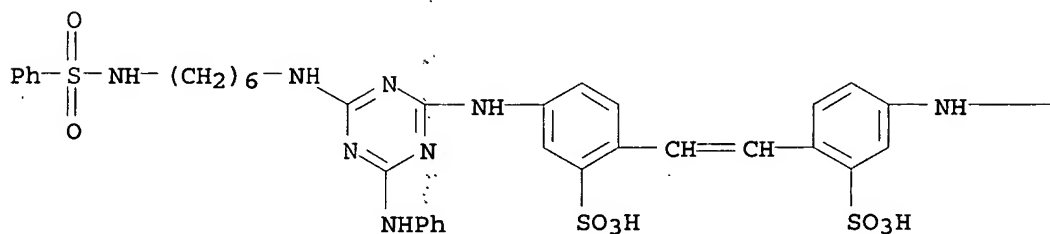
PAGE 1-B



RN 56125-46-3 HCAPLUS

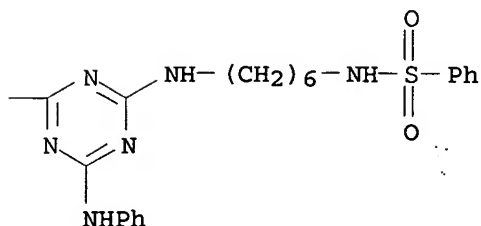
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-(phenylamino)-6-[[6-[(phenylsulfonyl)amino]hexyl]amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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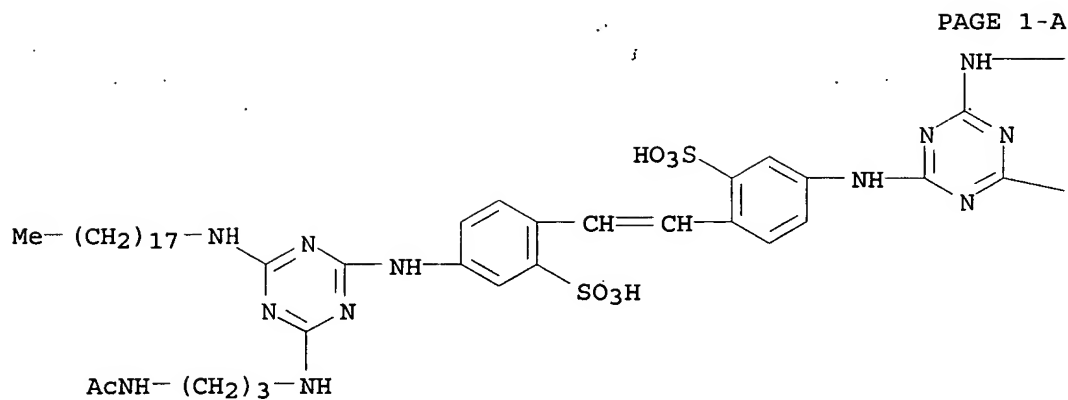
● 2 Na

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RN 56190-24-0 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(acetylaminopropyl)amino]-6-(octadecylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



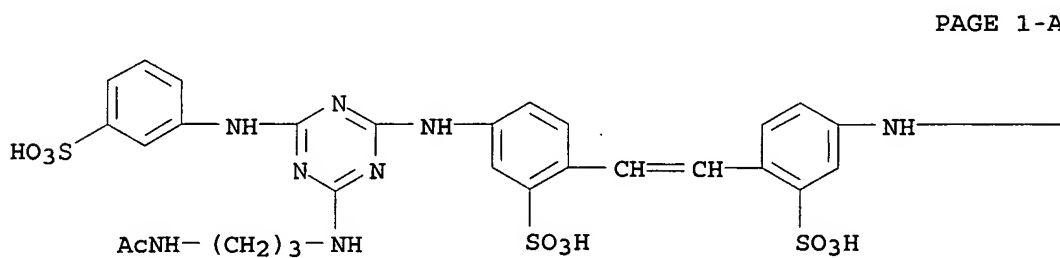
● 2 Na

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- (CH₂)₃-NHAc- NH- (CH₂)₁₇-Me

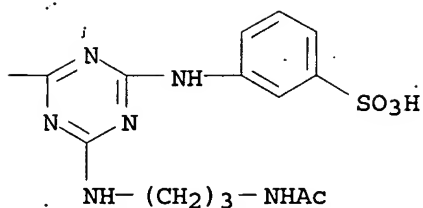
RN 56190-25-1 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(acetylamino)propyl]amino]-6-[(3-sulfo)phenyl]amino]-1,3,5-triazin-2-yl]amino]-, tetrasodium salt (9CI) (CA INDEX NAME)



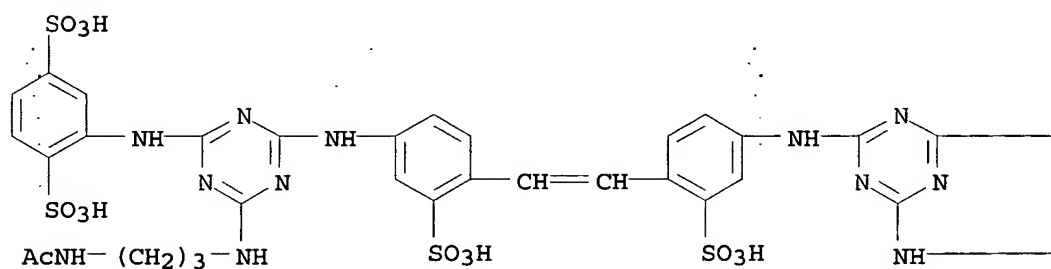
● 4 Na

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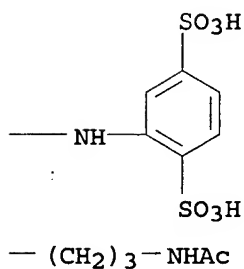
RN 56190-26-2 HCAPLUS
 CN 1,4-Benzenedisulfonic acid, 2,2'-[1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino[6-[[3-(acetylamino)propyl]amino]-1,3,5-triazine-4,2-diyl]imino]]bis-, hexasodium salt (9CI) (CA INDEX NAME)

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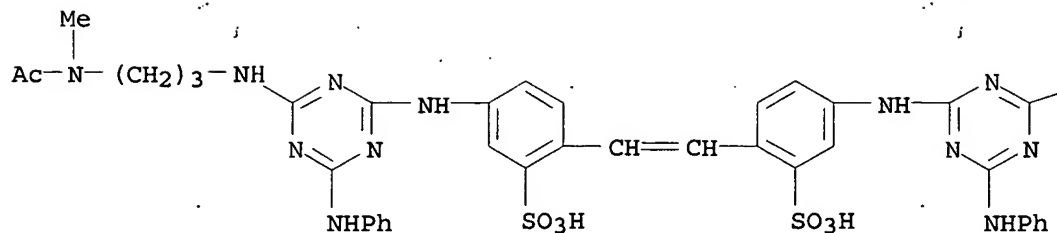
● 6 Na

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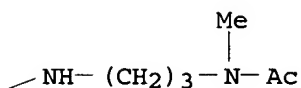


RN 56190-28-4 HCAPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(acetylmethylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

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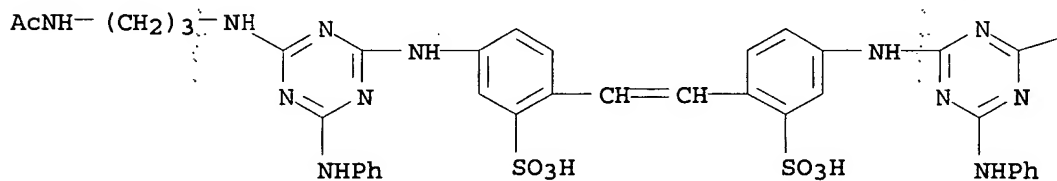
RN 57038-69-4 HCAPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(acetylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, compd.. with 2,2'-iminobis[ethanol] (1:2) (9CI) (CA INDEX NAME)

CM 1

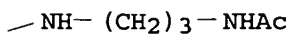
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CMF C42 H46 N14 O8 S2

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CM 2

CRN 111-42-2

CMF C4 H11 N O2



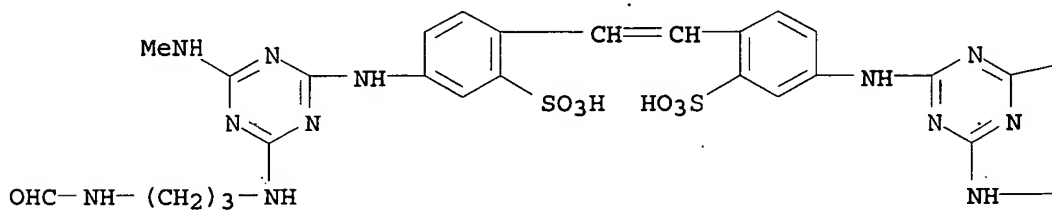
RN 70862-31-6 HCAPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-

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(formylamino)propyl]amino]-6-(methlamino)-1,3,5-triazin-2-yl]amino]-
 , disodium salt (9CI) (CA INDEX NAME)

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● 2 Na

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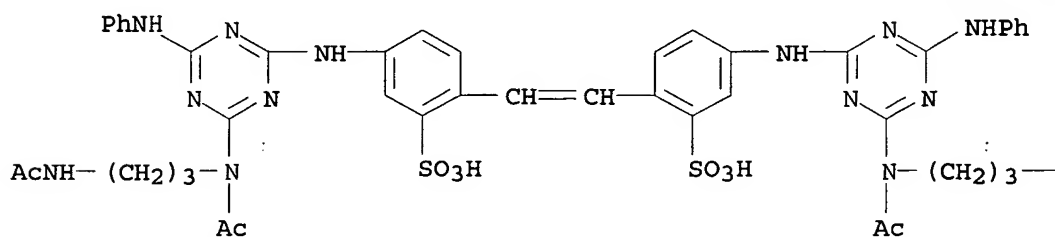
NHMe

— (CH₂)₃—NH—CHO

RN 70862-32-7 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[acetyl[3-(
 (acetylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-
 (9CI) (CA INDEX NAME)

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—NHAc

- IC C07D251-68; C11D003-42; D01F001-10; D21H003-80
CC 40-11 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)
ST stilbene fluorescent whitener; polyamide fiber
fluorescent brightener; cotton fluorescent
brightener; aminotriazine fluorescent
brightener; triazinamine fluorescent
brightener; aminostilbene fluorescent
brightener
IT Fluorescent brighteners
(bis[[amino[(aminoalkyl)amino]triazinyl]amino]stilbenedisulfonic
acid derivs., for cotton and polyamide fibers)
IT Polyamide fibers, uses and miscellaneous
RL: USES (Uses)
(fluorescent brighteners for,
bis[[amino[(aminoalkyl)amino]triazinyl]amino]stilbenedisulfonic
acid derivs. as)
IT 56125-47-4P
RL: IMF (Industrial manufacture); PREP (Preparation)
(fluorescent brightener, prepn. and spectral
properties of)
IT 56125-09-8 56125-10-1 56125-11-2
56125-12-3 56125-15-6 56125-16-7
56125-17-8 56125-18-9 56125-19-0
56125-20-3 56125-21-4 56125-22-5
56125-24-7 56125-25-8 56125-26-9 56125-27-0
56125-29-2 56125-30-5 56125-31-6
56125-32-7 56125-33-8 56125-34-9
56125-35-0 56125-36-1 56125-37-2
56125-38-3 56125-39-4 56125-40-7
56125-41-8 56125-42-9 56125-43-0
56125-44-1 56125-45-2 56125-46-3
56190-24-0 56190-25-1 56190-26-2
56190-27-3 56190-28-4 57038-69-4
70862-31-6 70862-32-7
RL: USES (Uses)
(fluorescent brightener, spectral properties
of)
IT 108-77-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with amines, in fluorescent
brightener manuf.)
IT 110-91-8, reactions 121-47-1 4078-13-1 56125-48-5 56125-49-6
56125-50-9 56125-51-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with chlorotriazine deriv., in fluorescent
brightener manuf.)
IT 62-53-3, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with dichlorotriazine deriv., in
fluorescent brightener manuf.)

L46 ANSWER 16 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1975:499221 HCAPLUS
DOCUMENT NUMBER: 83:99221
TITLE: Bis(triazinylamino)stilbenedisulfonic acid
derivatives
INVENTOR(S): Mengler, Helmut; Schinzel, Erich; Roesch,
Guenter
PATENT ASSIGNEE(S): Hoechst A.-G., Fed. Rep. Ger.
SOURCE: Ger. Offen., 39 pp.

DOCUMENT TYPE: CODEN: GWXXBX
 LANGUAGE: Patent
 FAMILY ACC. NUM. COUNT: 3 German
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2444784	A1	19750403	DE 1974-2444784	197409 19
CH 7313558	A4	19770831	CH 1973-13558	197309 21
CH 603878	B	19780831		
NL 7412250	A	19750325	NL 1974-12250	197409 16
US 3951965	A	19760420	US 1974-506985	197409 18
DD 114842	C	19750820	DD 1974-181207	197409 19
IT 1022132	A	19780320	IT 1974-27491	197409 19
JP 50059420	A2	19750522	JP 1974-107863	197409 20
BR 7407858	A0	19750729	BR 1974-7858	197409 20
CA 1044233	A1	19781212	CA 1974-209718	197409 20
FR 2244765	A1	19750418	FR 1974-31960	197409 23
FR 2244765	B1	19781124		
GB 1489595	A	19771019	GB 1974-41388	197409 23
PRIORITY APPLN. INFO.:			CH 1973-13558	A 197309 21

GI For diagram(s), see printed CA Issue.

AB **Fluorescent whiteners** [I, R = PhNH, substituted PhNH, alkylamino, Cl, alkenylamino, alkoxy, morpholino, pyrrolidinyl; R1 = H, Me, AcNHCH2CH2CH2; (R2R3N) = acylamino, succinimido, sulfonamido, phthalimido, ureido, oxopyridyl; R4 = H, Na, HN(CH2CH2OH)3, HNet3; Z = alkylene] were prepd. and used to whiten cotton, rayon, polyamide, polyurethane, and wool fibers. Thus, cyanuric chloride was condensed with 4,2-H2N(HO3S)C6H3CH:CHC6H3(SO3H)NH2-2,4 [81-11-8], the bis(dichlorotriazinyl) compd. heated with PhNH2 [62-53-3] at pH 5-5.5 and 15°, the reaction product treated with H2NCH2CH2CH2NHCHO [56125-51-0] at pH 8-9, and the reaction mixt. salted to give **fluorescent whitener** I (R = PhNH, R1 = R2 = H, R3 = CHO, R4 = Na, Z = CH2CH2CH2) [56125-47-4]. The other I were similarly prepd.

IT 56125-09-8P 56125-10-1P 56125-11-2P
 56125-12-3P 56125-14-5P 56125-15-6P
 56125-16-7P 56125-17-8P 56125-18-9P
 56125-19-0P 56125-20-3P 56125-21-4P
 56125-22-5P 56125-23-6P 56125-26-9P
 56125-27-0P 56125-28-1P 56125-29-2P
 56125-30-5P 56125-31-6P 56125-33-8P
 56125-34-9P 56125-35-0P 56125-36-1P
 56125-37-2P 56125-38-3P 56125-39-4P
 56125-40-7P 56125-41-8P 56125-42-9P
 56125-43-0P 56125-44-1P 56125-45-2P
 56125-46-3P 56190-23-9P 56190-24-0P
 56190-25-1P 56190-26-2P 56190-28-4P

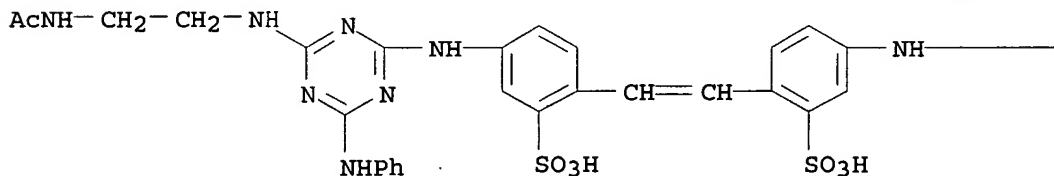
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(prepn. and fluorescent spectra of)

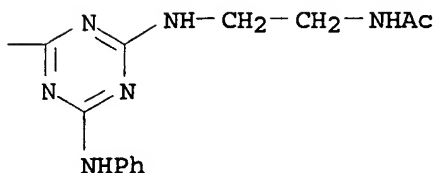
RN 56125-09-8 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[2-(acetyl-amino)ethyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]]-6-(phenylamino)-1,3,5-triazin-2-yl]amino] (9CI) (CA INDEX NAME)

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RN 56125-10-1 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[2-(acetyl-amino)ethyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]]-6-(phenylamino)-1,3,5-triazin-2-yl]amino] (9CI) (CA INDEX NAME)

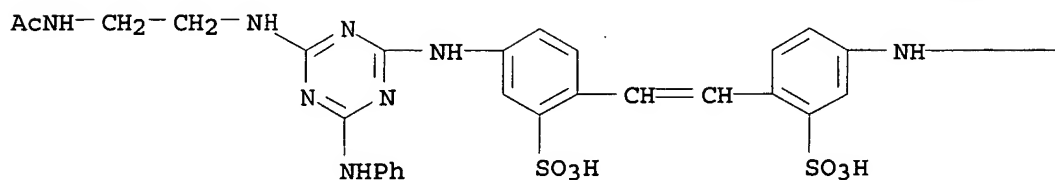
, compd. with 2,2',2''-nitrilotris[ethanol] (1:2) (9CI) (CA INDEX NAME)

CM 1

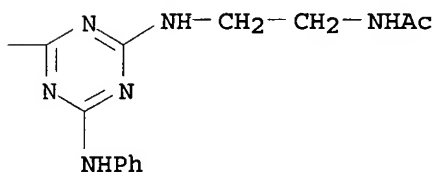
CRN 56125-09-8

CMF C40 H42 N14 O8 S2

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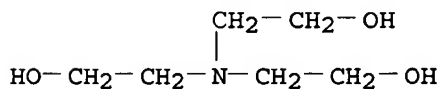
PAGE 1-B



CM 2

CRN 102-71-6

CMF C6 H15 N O3



RN 56125-11-2 HCAPLUS

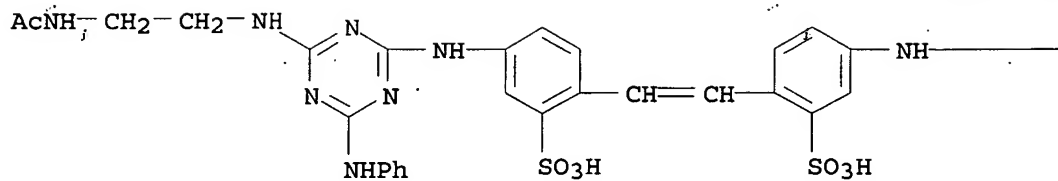
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[2-(acetylamino)ethyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, compd. with N,N-diethylethanamine (1:2) (9CI) (CA INDEX NAME)

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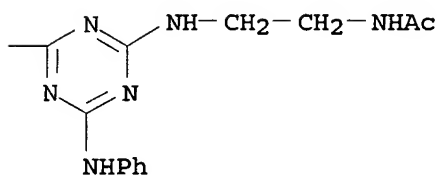
CRN 56125-09-8

CMF C40 H42 N14 O8 S2

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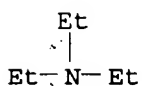
PAGE 1-B



CM 2

CRN 121-44-8

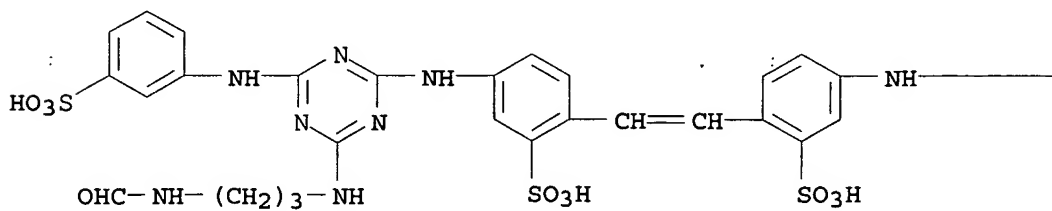
CMF C6 H15 N



RN 56125-12-3 HCAPLUS

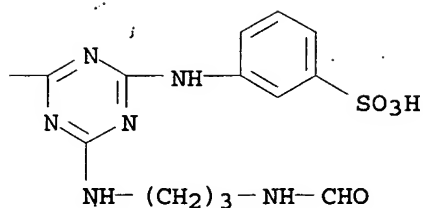
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(formylamino)propyl]amino]-6-[(3-sulfophenyl)amino]-1,3,5-triazin-2-yl]amino]-, tetrasodium salt (9CI) (CA INDEX NAME)

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●4 Na

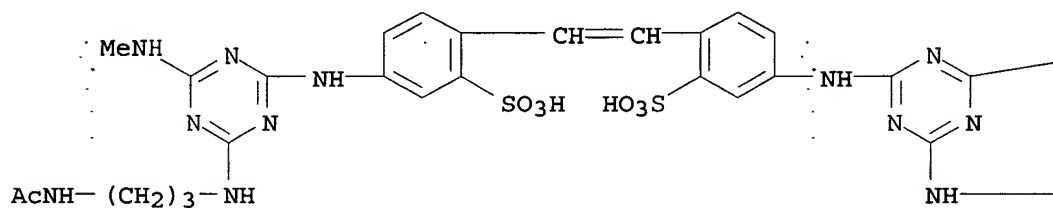
PAGE 1-B



RN 56125-14-5 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(acetamino)propyl]amino]-6-(methylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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● 2 Na

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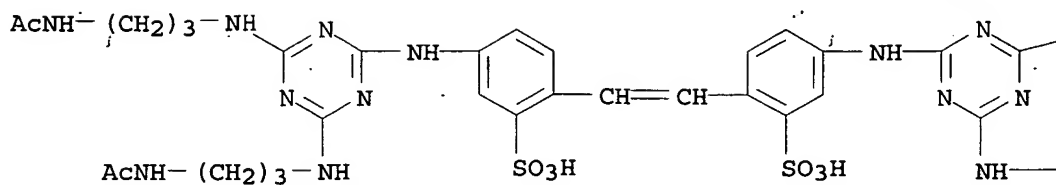
— NHMe

— (CH₂)₃—NHAc

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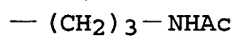
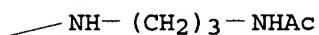
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4,6-bis[[3-(acetamino)propyl]amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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● 2 Na

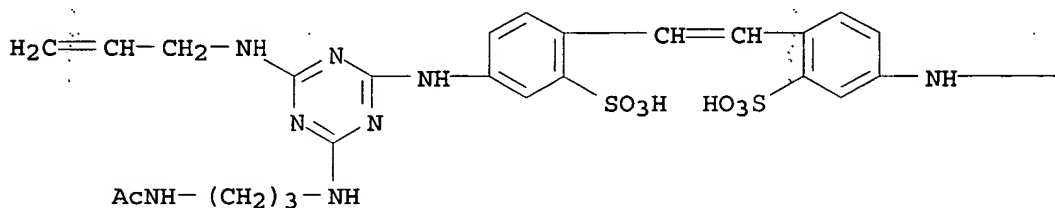
PAGE 1-B



RN 56125-16-7 HCAPLUS

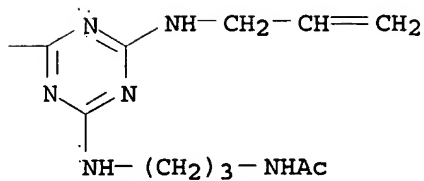
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(acetylamino)propyl]amino]-6-(2-propenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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● 2 Na

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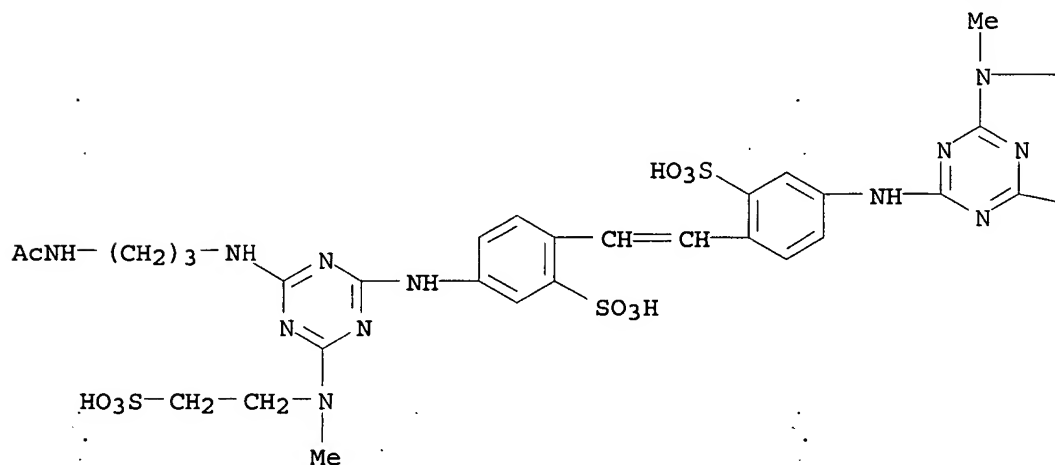
RN 56125-17-8 HCAPLUS

MEI HUANG EIC1700 REM4B28 571-272-3952

08/17/2006

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(acetylamino)propyl]amino]-6-[methyl(2-sulfoethyl)amino]-1,3,5-triazin-2-yl]amino]-, tetrasodium salt (9CI) (CA INDEX NAME)

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● 4 Na

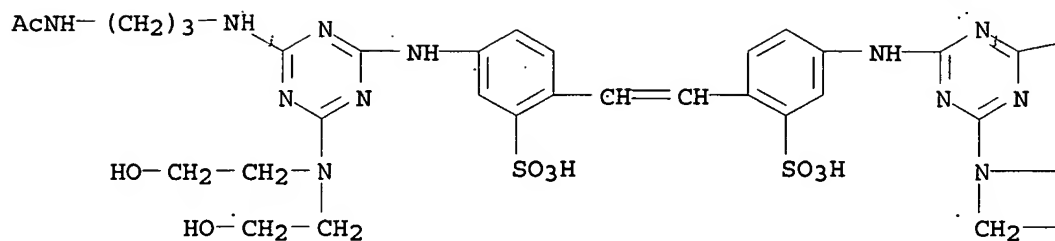
PAGE 1-B

—CH₂—CH₂—SO₃H—NH—(CH₂)₃—NHAc

RN 56125-18-9 HCAPLUS

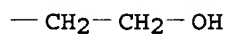
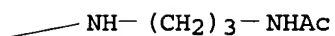
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(acetylamino)propyl]amino]-6-[bis(2-hydroxyethyl)amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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● 2 Na

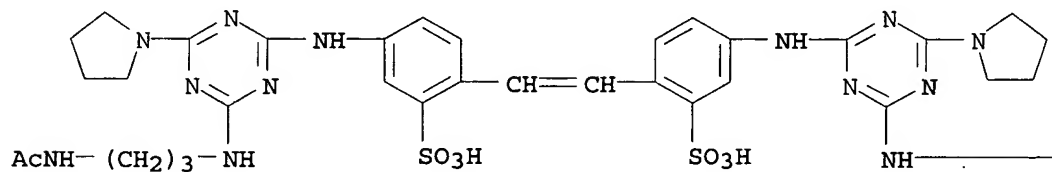
PAGE 1-B



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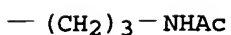
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(acetylamino)propyl]amino]-6-(1-pyrrolidinyl)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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● 2 Na

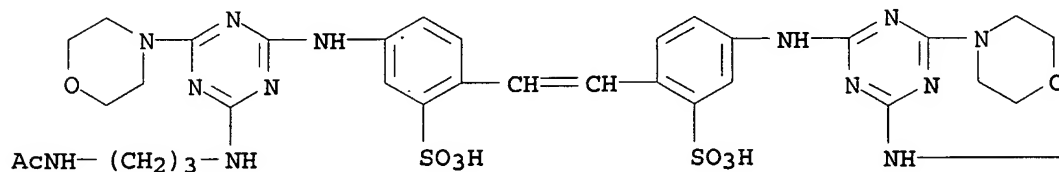
PAGE 1-B



RN 56125-20-3 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(acetylamino)propyl]amino]-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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● 2 Na

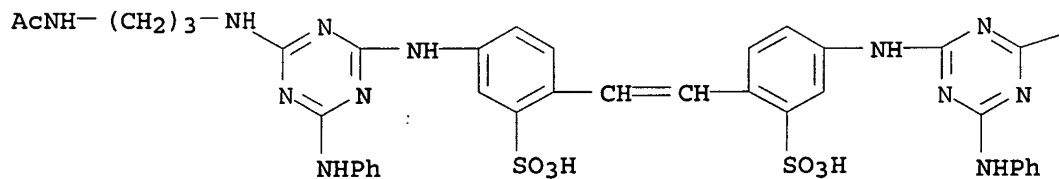
PAGE 1-B

— (CH₂)₃—NHAc

RN 56125-21-4 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(acetylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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● 2 Na

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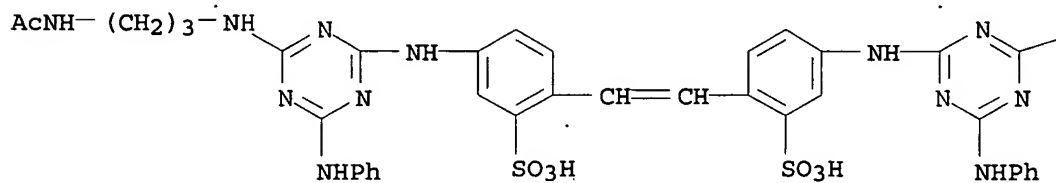
—NH—(CH₂)₃—NHAc

RN 56125-22-5 HCAPLUS

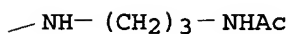
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-

(acetylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-
(9CI) (CA INDEX NAME)

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RN 56125-23-6 HCAPLUS

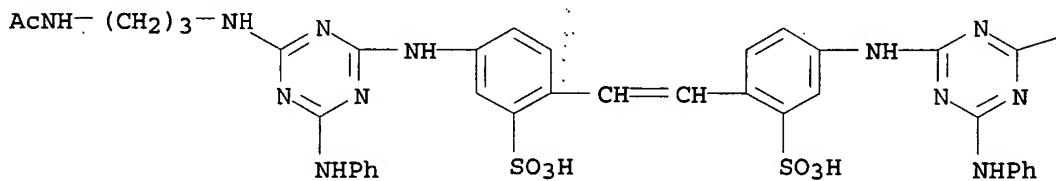
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(acetylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, compd. with 2,2',2''-nitrilotris[ethanol] (1:2) (9CI) (CA INDEX NAME)

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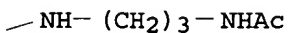
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CMF C42 H46 N14 O8 S2

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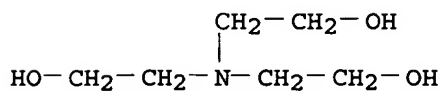
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CM 2

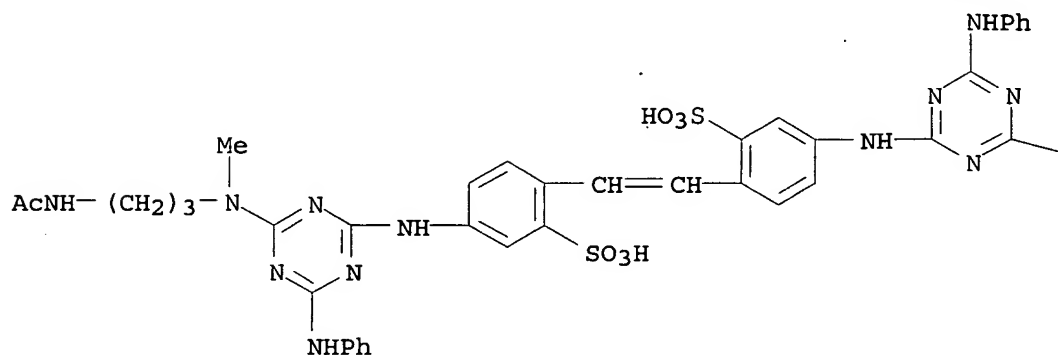
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CMF C6 H15 N O3



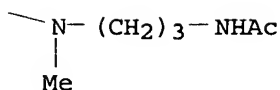
RN 56125-26-9 HCAPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(acetylamino)propyl]methylamino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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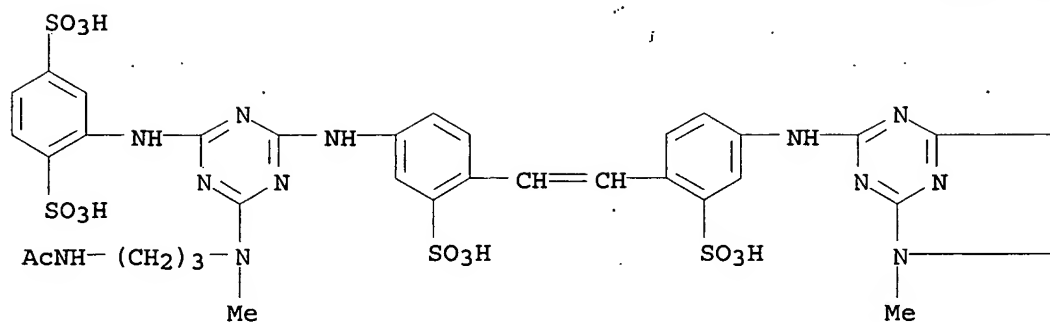
●2 Na

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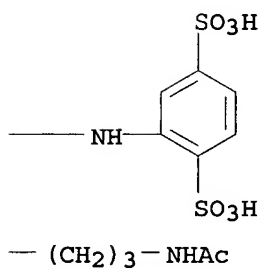
RN 56125-27-0 HCAPLUS
 CN 1,4-Benzenedisulfonic acid, 2,2'-[1,2-ethenediyl]bis[(3-sulfo-4,1-phenylene)imino[6-[[3-(acetylamino)propyl]methylamino]-1,3,5-triazine-4,2-diyl]imino]]bis-, hexasodium salt (9CI) (CA INDEX NAME)

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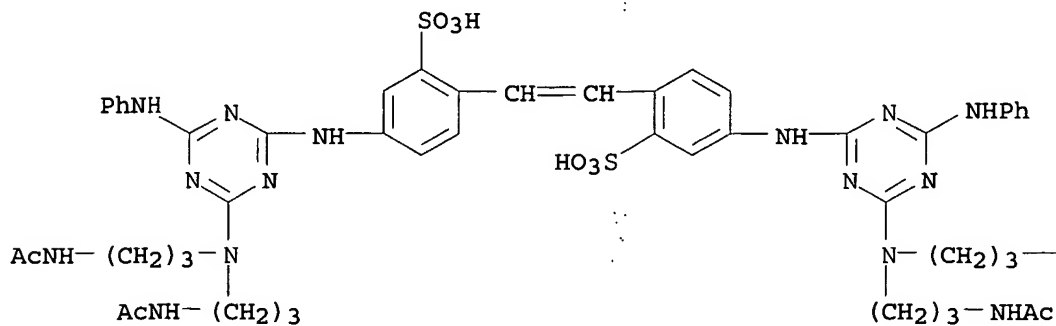
● 6 Na

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RN 56125-28-1 HCAPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[bis(3-(acetylamino)propyl)amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-
 (9CI) (CA INDEX NAME)

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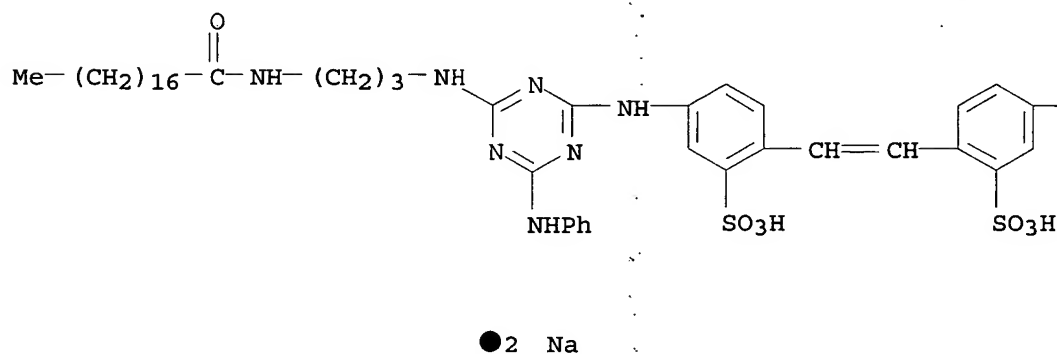


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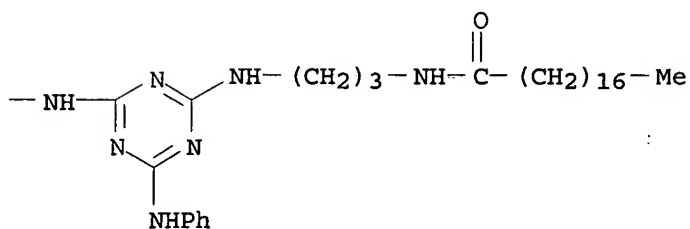
—NHAc

RN 56125-29-2 HCAPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-[(1-oxooctadecyl)amino]propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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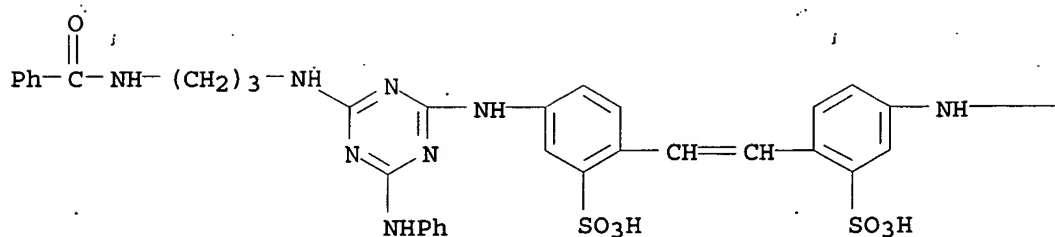


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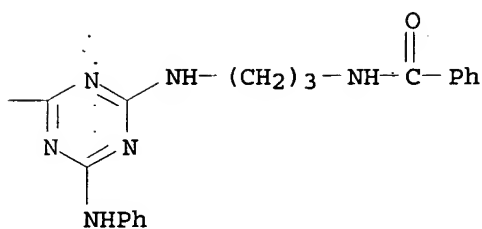
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 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(benzoylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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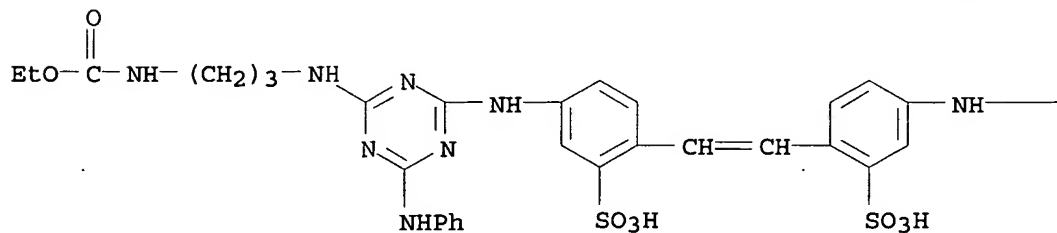
● 2 Na

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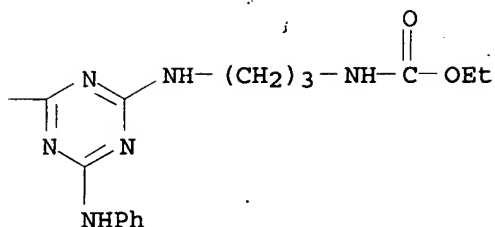
RN 56125-31-6 HCAPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-
 [(ethoxycarbonyl)amino]propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-
 yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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● 2 Na

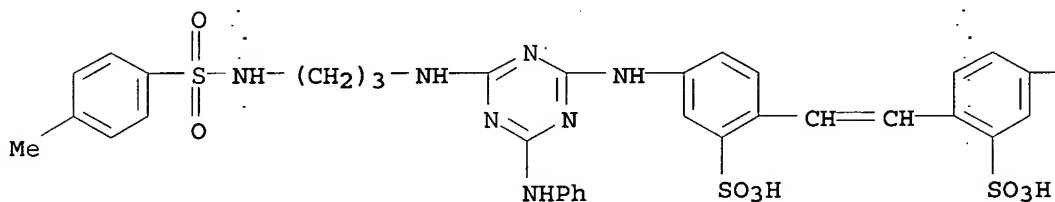
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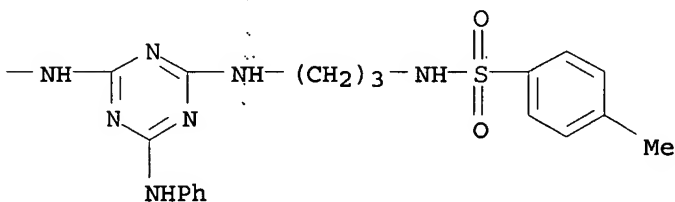
RN 56125-33-8 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-[[4-methylphenyl)sulfonyl]amino]propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

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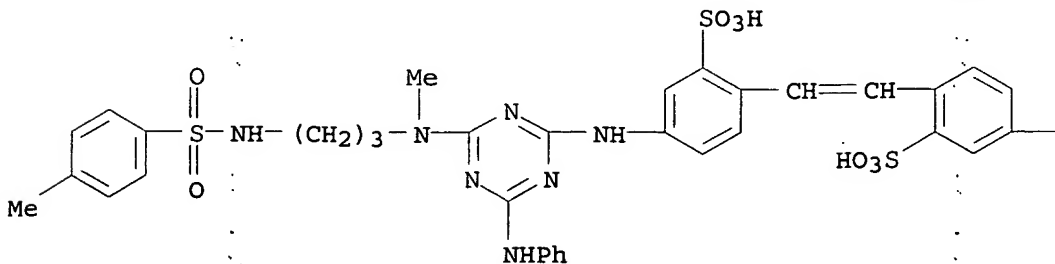
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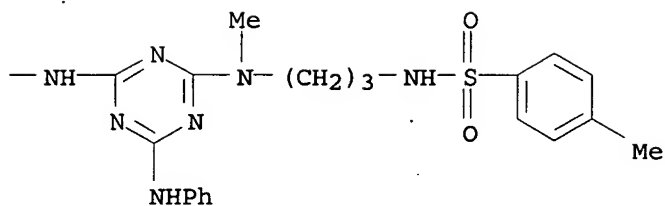
RN 56125-34-9 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[methyl[3-[[4-methylphenyl)sulfonyl]amino]propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

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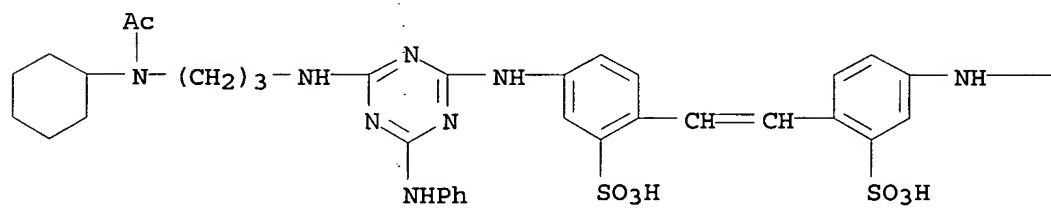
PAGE 1-B



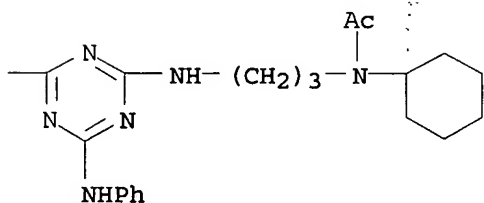
RN 56125-35-0 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(acetylcyclohexylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

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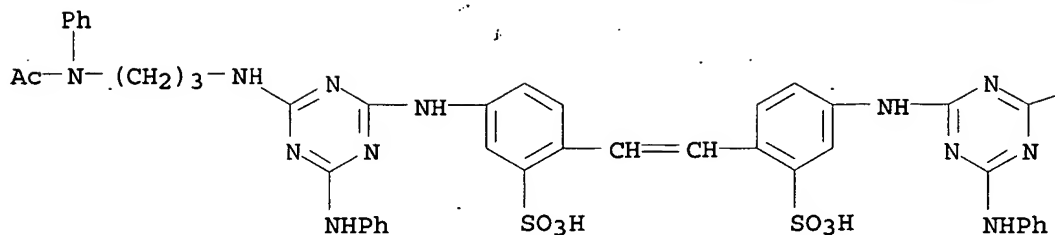
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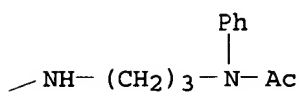
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CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(acetylphenylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

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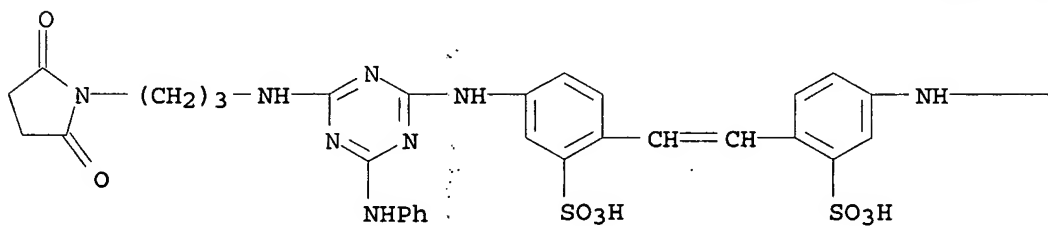
PAGE 1-B



RN 56125-37-2 HCAPLUS

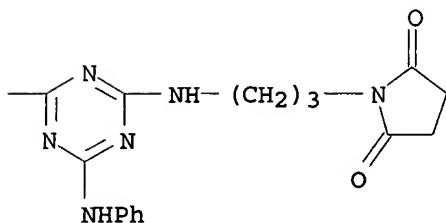
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(2,5-dioxo-1-pyrrolidinyl)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



● 2 Na

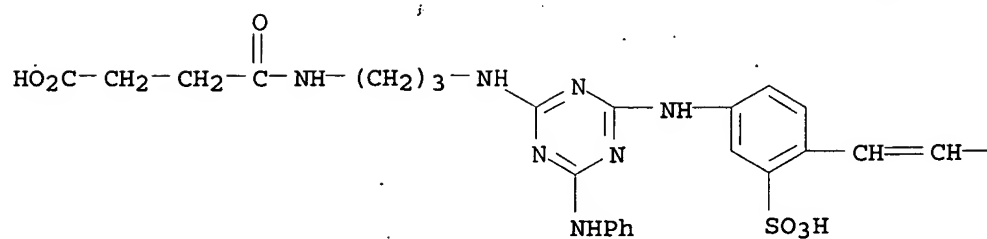
PAGE 1-B



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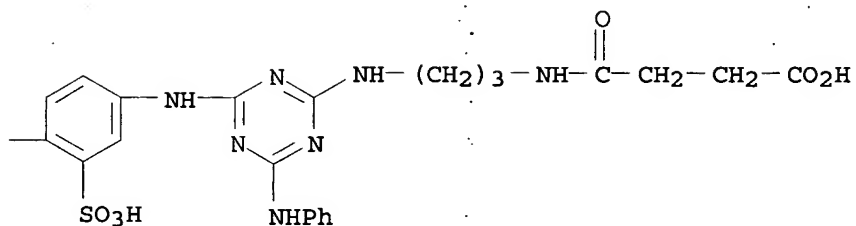
CN Butanoic acid, 4,4'-[1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino[6-(phenylamino)-1,3,5-triazine-4,2-diyl]imino-3,1-propanediylimino]]bis[4-oxo-, tetrasodium salt (9CI) (CA INDEX NAME)

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●4 Na

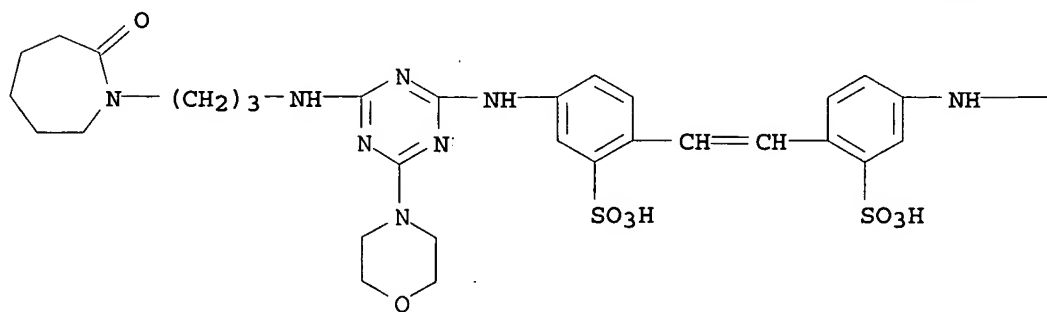
PAGE 1-B



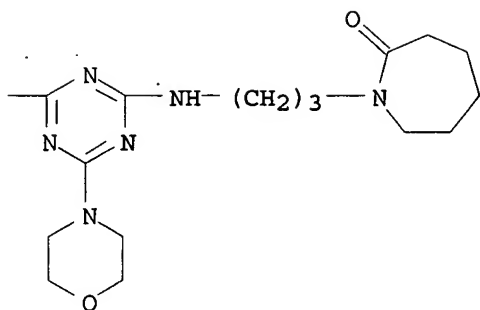
RN 56125-39-4 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(hexahydro-2-oxo-1H-azepin-1-yl)propyl]amino]-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

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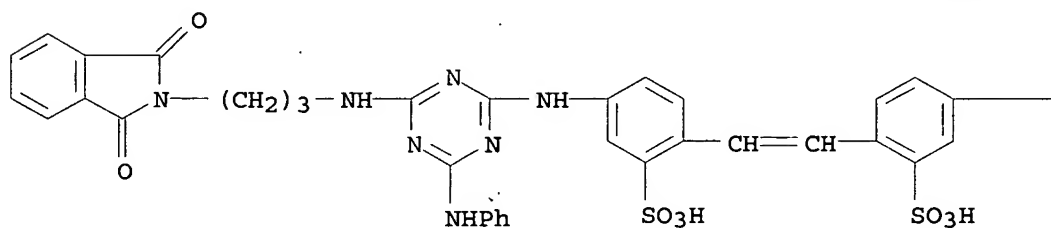


PAGE 1-B



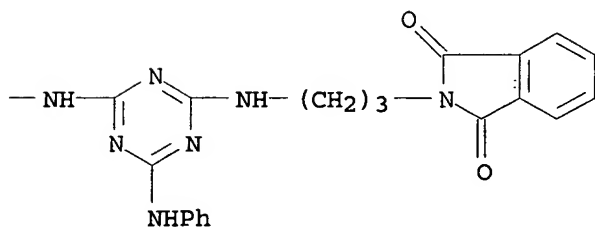
RN 56125-40-7 HCAPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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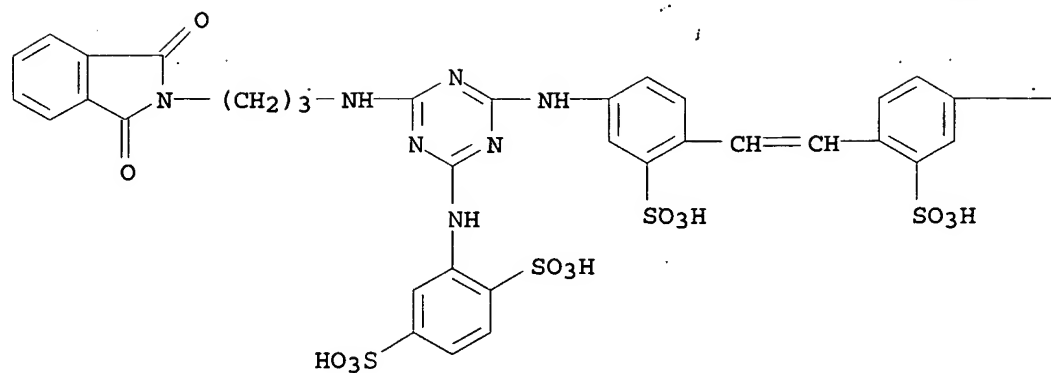
● 2 Na

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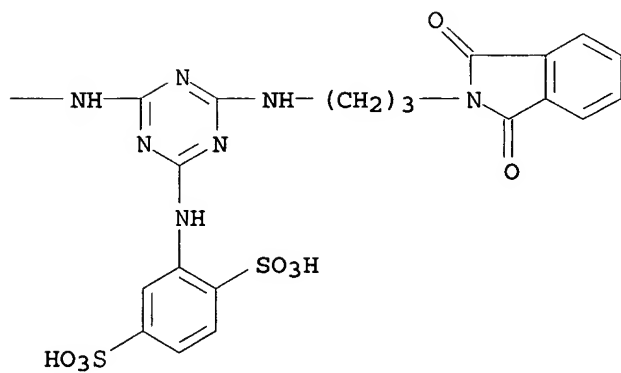
RN 56125-41-8 HCAPLUS
 CN 1,4-Benzenedisulfonic acid, 2,2'-[1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino[6-[[3-(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)propyl]amino]-1,3,5-triazine-4,2-diyl]imino]]bis-, hexasodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



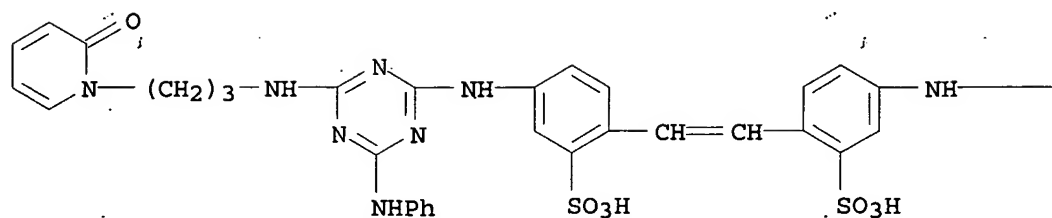
●6 Na

PAGE 1-B



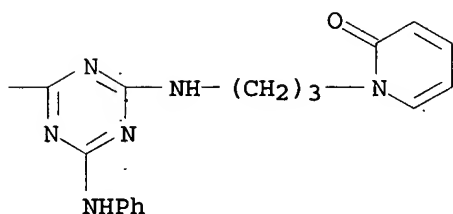
RN 56125-42-9 HCAPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(2-oxo-1(2H)-pyridinyl)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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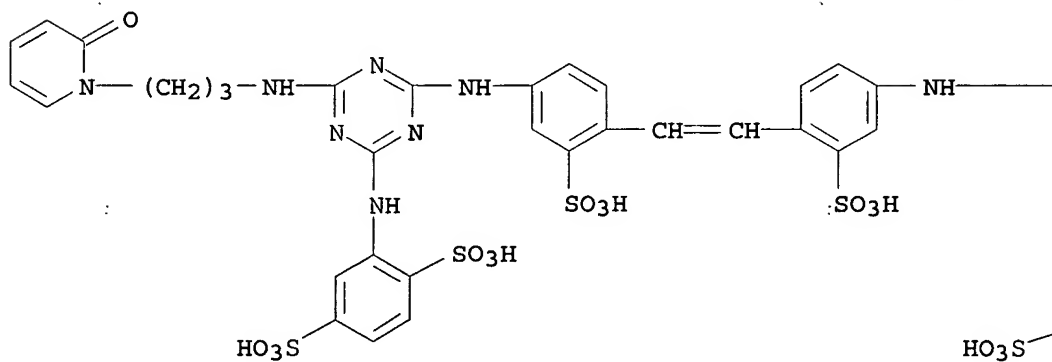
● 2 Na

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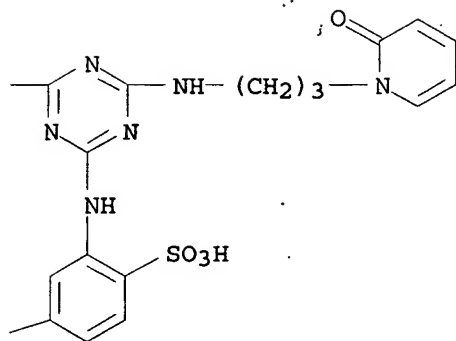
RN 56125-43-0 HCAPLUS
 CN 1,4-Benzenedisulfonic acid, 2,2'-[1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino[6-[[3-(2-oxo-1(2H)-pyridinyl)propyl]amino]-1,3,5-triazine-4,2-diyl]imino]]bis-, hexasodium salt (9CI) (CA INDEX NAME)

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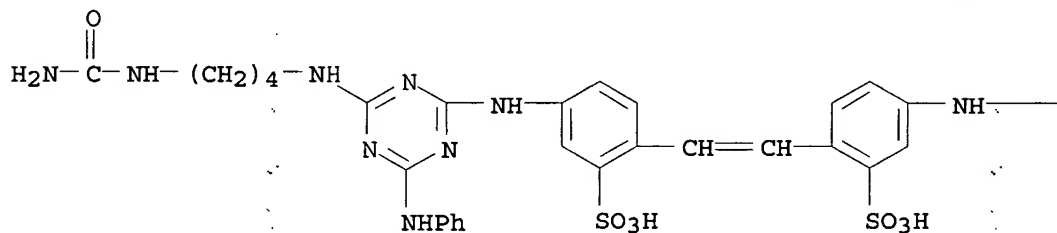
● 6 Na

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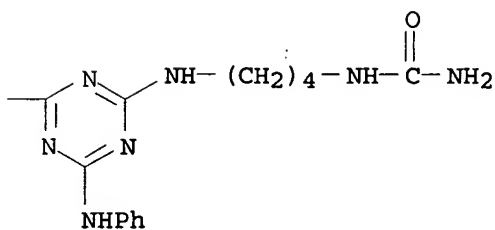
RN 56125-44-1 HCAPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[4-
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 yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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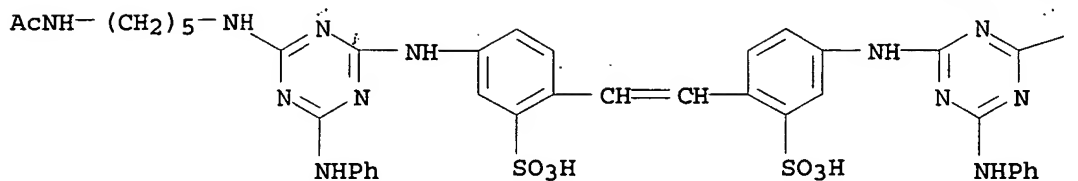
● 2 Na

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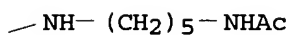
RN 56125-45-2 HCAPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[4-
 (acetamino)pentyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-
 , disodium salt (9CI) (CA INDEX NAME)

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● 2 Na

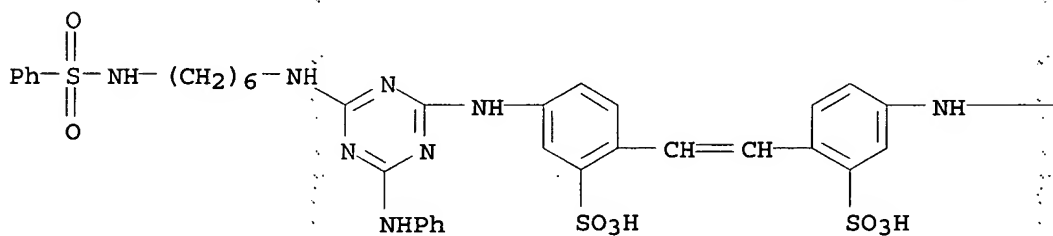
PAGE 1-B



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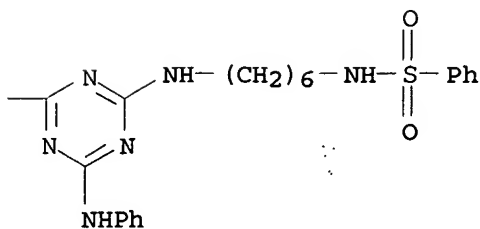
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-(phenylamino)-6-[[6-[(phenylsulfonyl)amino]hexyl]amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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● 2 Na

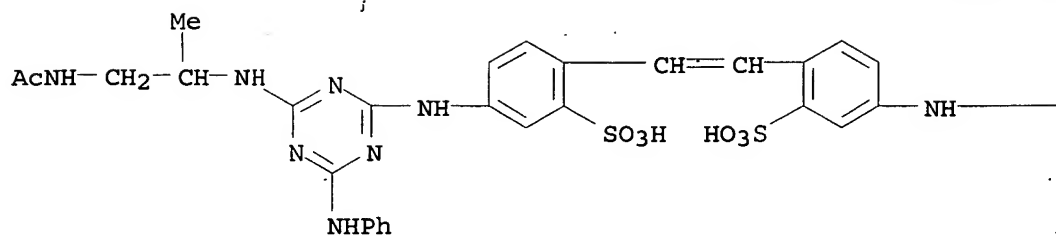
PAGE 1-B



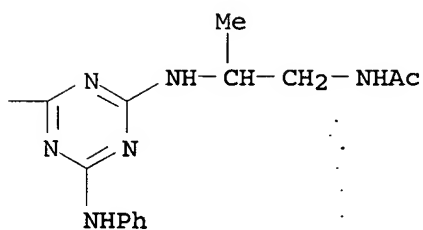
RN 56190-23-9 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[2-(acetylamino)-1'-methylethyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

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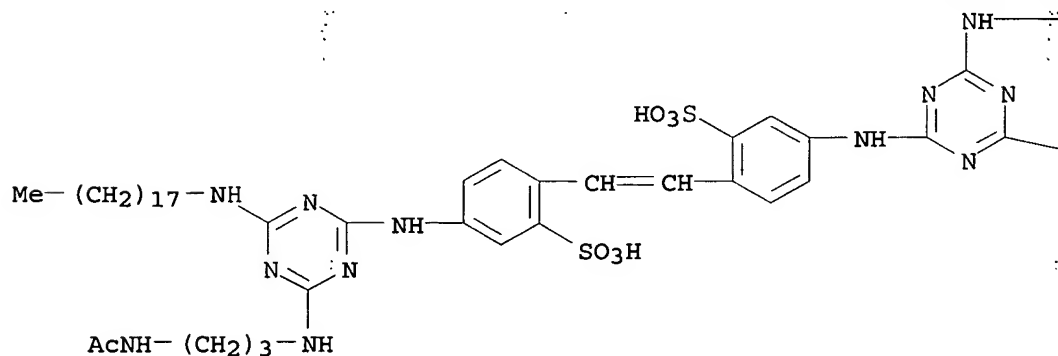


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RN 56190-24-0 HCAPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(acetylamino)propyl]amino]-6-(octadecylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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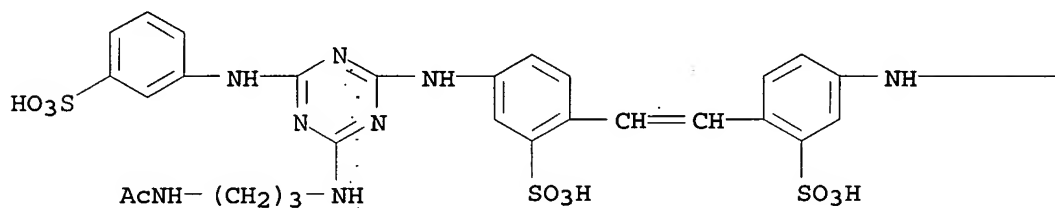
● 2 Na

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— (CH₂)₃—NHAc—NH—(CH₂)₁₇—Me

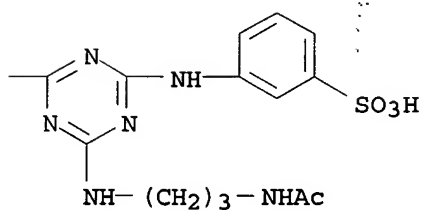
RN 56190-25-1 HCAPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(acetylamino)propyl]amino]-6-[(3-sulfophenyl)amino]-1,3,5-triazin-2-yl]amino]-, tetrasodium salt (9CI) (CA INDEX NAME)

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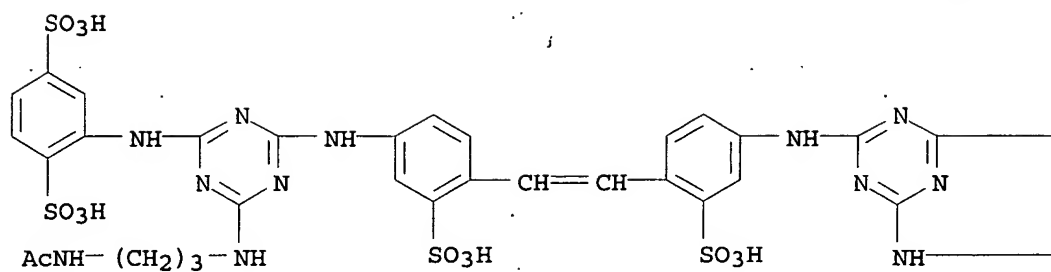
● 4 Na

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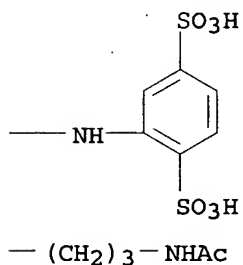
RN 56190-26-2 HCAPLUS
 CN 1,4-Benzenedisulfonic acid, 2,2'-[1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino[6-[[3-(acetylamino)propyl]amino]-1,3,5-triazine-4,2-diyl]imino]]bis-, hexasodium salt (9CI) (CA INDEX NAME)

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● 6 Na

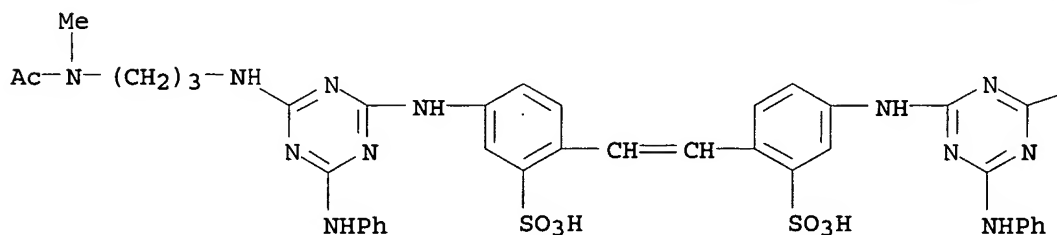
PAGE 1-B



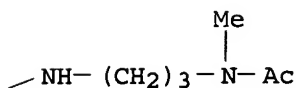
RN 56190-28-4 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(acetylmethylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

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IT 56125-32-7P 56125-47-4P

RL: IMF (Industrial manufacture); PREP (Preparation)

MEI HUANG EIC1700 REM4B28 571-272-3952

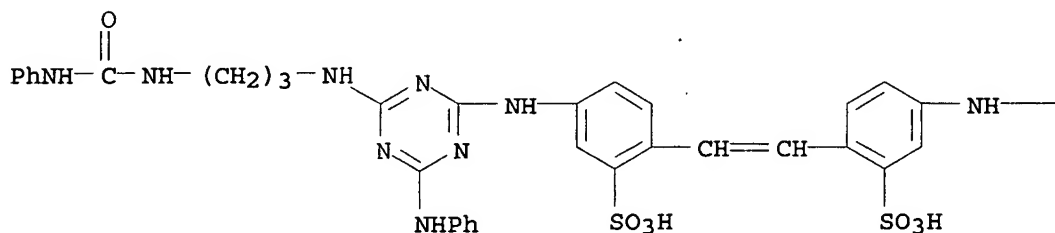
08/17/2006

(prepn. of)

RN 56125-32-7 HCAPLUS

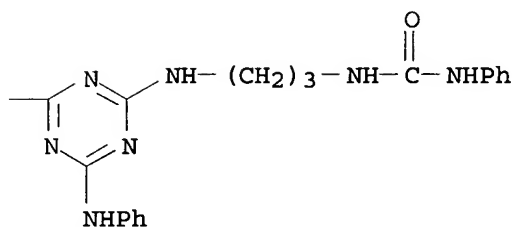
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-(phenylamino)-6-[[3-[[[(phenylamino)carbonyl]amino]propyl]amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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●2 Na

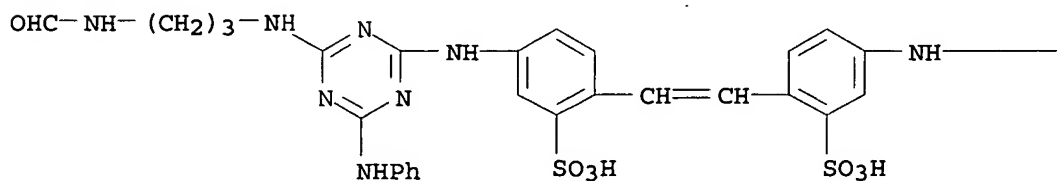
PAGE 1-B



RN 56125-47-4 HCAPLUS

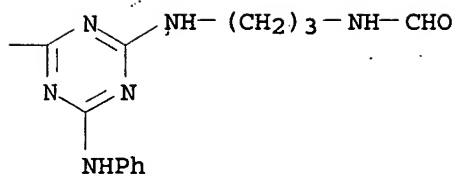
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(formylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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●2 Na

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IC C07D
 CC 40-11 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)
 ST **fluorescent brightener**
 triazinylaminostilbenedisulfonic acid; stilbenedisulfonic acid
fluorescent brightener; cotton **fluorescent**
brightener; rayon **fluorescent brightener**
 ; polyamide fiber **fluorescent brightener**; wool
fluorescent brightener; polyurethane fiber
fluorescent brightener
 IT **Fluorescent brighteners**
 (bis(triazinylamino)stilbenedisulfonic acid acyl derivs., cotton,
 rayon, polyamide, polyurethane and wool fibers)
 IT Polyamide fibers
 Spandex fibers
 RL: USES (Uses)
 (fluorescent brighteners for,
 bis(triazinylamino)stilbenedisulfonic acid acyl derivs. as)
 IT 56125-09-8P 56125-10-1P 56125-11-2P
 56125-12-3P 56125-13-4P 56125-14-5P
 56125-15-6P 56125-16-7P 56125-17-8P
 56125-18-9P 56125-19-0P 56125-20-3P
 56125-21-4P 56125-22-5P 56125-23-6P
 56125-24-7P 56125-25-8P 56125-26-9P 56125-27-0P
 56125-28-1P 56125-29-2P 56125-30-5P
 56125-31-6P 56125-33-8P 56125-34-9P
 56125-35-0P 56125-36-1P 56125-37-2P
 56125-38-3P 56125-39-4P 56125-40-7P
 56125-41-8P 56125-42-9P 56125-43-0P
 56125-44-1P 56125-45-2P 56125-46-3P
 56190-23-9P 56190-24-0P 56190-25-1P
 56190-26-2P 56190-27-3P 56190-28-4P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP
 (Preparation)
 (prepn. and fluorescent spectra of)
 IT 56125-32-7P 56125-47-4P
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (prepn. of)

L46 ANSWER 17 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1975:74469 HCAPLUS
 DOCUMENT NUMBER: 82:74469
 TITLE: **Fluorescent whitener for**
 paper
 INVENTOR(S): Fringeli, Werner
 PATENT ASSIGNEE(S): Ciba-Geigy A.-G.
 SOURCE: Ger. Offen., 21 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German

MEI HUANG EIC1700 REM4B28 571-272-3952

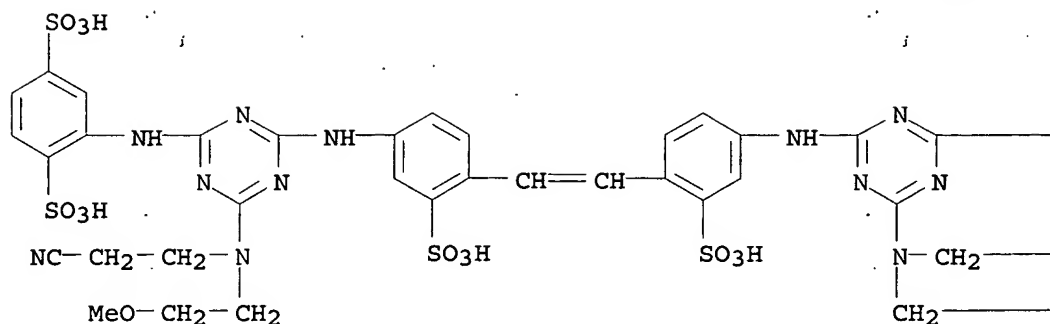
08/17/2006

FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2403455	A1	19740808	DE 1974-2403455	19740125
CH 582275	A	19761130	CH 1973-1561	19730202
US 3954740	A	19760504	US 1974-435785	19740123
GB 1415822	A	19751126	GB 1974-3843	19740128
FR 2216284	A1	19740830	FR 1974-3246	19740131
PRIORITY APPLN. INFO.:			CH 1973-1561	A 19730202

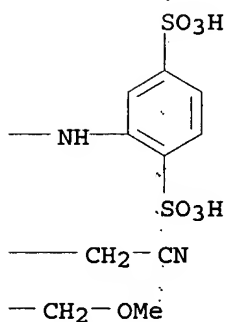
GI For diagram(s), see printed CA Issue.
AB A fluorescent whitener (I) [53460-08-5] was prepd. and used in paper coatings. Thus, 2,5-(NaO3S)2C6H3NH2 was added to cyanuric chloride in aq. Me2CO with maintaining pH 3-4 (with 15% Na2CO3), the mixt. stirred 4 hr at 0-5° and pH 3-4, di-Na 4,4'-diamino-2,2'-stilbenedisulfonate added, the mixt. was stirred 4 hr at 20-30° and pH 7, and heated with MeOCH2CH2NHCH2CH2CN 5 hr at 95-100° and pH 8-9 to give water-sol. I. Paper of improved degree of whiteness was obtained by coating with a mixt. of 2 g I and 80 g degraded starch in H2O.
IT 53460-08-5P
RL: IMF (Industrial manufacture); PREP (Preparation) (prepn. of)
RN 53460-08-5 HCAPLUS
CN 1,4-Benzenedisulfonic acid, 2,2'-[1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino[6-[(2-cyanoethyl)(2-methoxyethyl)amino]-1,3,5-triazine-4,2-diyl]imino]]bis-, hexasodium salt (9CI) (CA INDEX NAME)

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● 6 Na

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IC C07D
 CC 40-11 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)
 Section cross-reference(s): 43
 ST **fluorescent whitener stilbene;**
triazinylaminostilbene fluorescent whitener;
paper fluorescent whitener
 IT **Fluorescent brighteners**
 (bis[(diaminotriazinyl)amino]stilbenedisulfonic acid deriv., for
 paper)
 IT Paper
 (fluorescent brighteners for,
 bis[(diaminotriazinyl)amino]stilbenedisulfonic acid deriv. as)
 IT **53460-08-5P**
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (prepn. of)

L46 ANSWER 18 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1973:467825 HCAPLUS
 DOCUMENT NUMBER: 79:67825
 TITLE: Bis(S-triazinylamino)stilbene **fluorescent**
whiteners
 INVENTOR(S): Ackermann, Hans; Creutzburg, Gerhard

MEI HUANG; EIC1700 REM4B28 571-272-3952

08/17/2006

PATENT ASSIGNEE(S): Ciba-Geigy Corp.
 SOURCE: U.S., 8 pp.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3723425	A	19730327	US 1970-80484	19701013

PRIORITY APPLN. INFO.:

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 US 1970-80484 A
 19701013

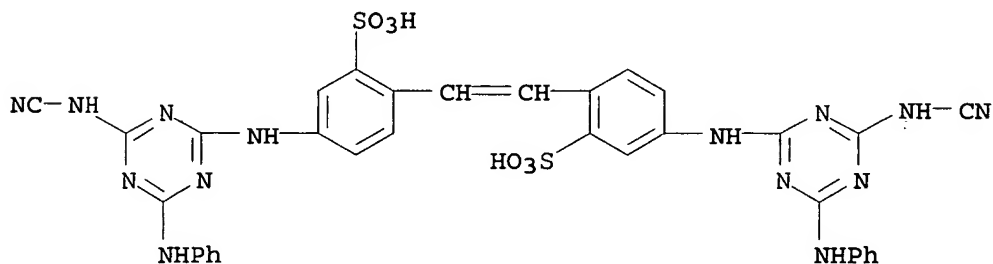
AB Fluorescent whiteners (I, R = Cl, PhNH, Et₂N, (HOCH₂CH₂)₂N, MeO, 2,5-(NaO₃S)₂C₆H₃NH, m-NaO₃SC₆H₄NH, X = Na, Me, Et, CH₂CH₂OH) were prepd. and were used to whiten fabrics, paper, in detergent compns., and to whiten polyamide fibers by incorporation in the melt. Thus, cyanuric chloride was treated with 4,2-H₂N(HO₃S)C₆H₃CH:CHC₆H₃(SO₃H)NH₂-2,4 and the intermediate treated with Na₂CN to give fluorescent whitener I (R = Cl, X = Na) [32063-39-1]. The other I were similarly prepd.

IT 33899-54-6P 33899-55-7P 33899-56-8P
 33899-58-0P 33899-59-1P 33953-22-9P
 33953-24-1P 33953-25-2P

RL: IMF (Industrial manufacture); PREP (Preparation)
 (prepn. of)

RN 33899-54-6 HCAPLUS

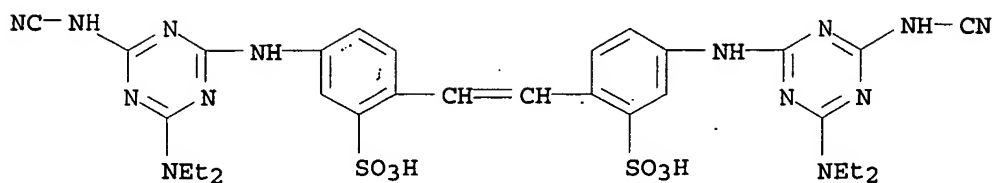
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-(cyanoamino)-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, tetrasodium salt (9CI)
 (CA INDEX NAME)



●4 Na

RN 33899-55-7 HCAPLUS

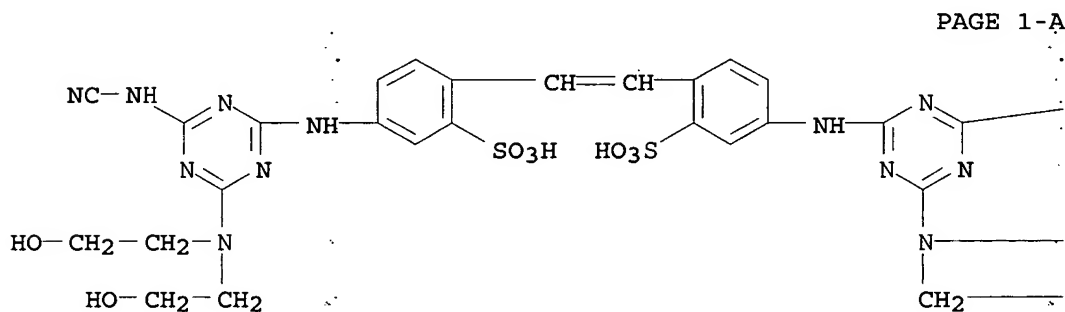
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-(cyanoamino)-6-(diethylamino)-1,3,5-triazin-2-yl]amino]-, tetrasodium salt (9CI)
 (CA INDEX NAME)



●4 Na

RN 33899-56-8 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[bis(2-hydroxyethyl)amino]-6-(cyanoamino)-1,3,5-triazin-2-yl]amino]-, tetrasodium salt (9CI) (CA INDEX NAME)



●4 Na

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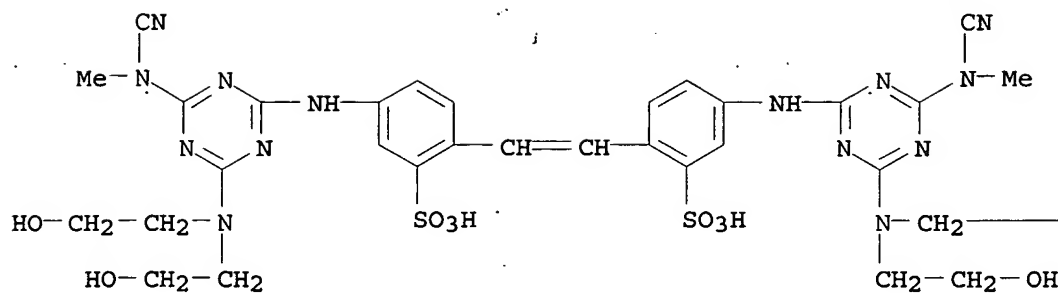
— NH—CN

— CH₂—CH₂—OH— CH₂—OH

RN 33899-58-0 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[bis(2-hydroxyethyl)amino]-6-(cyanomethylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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● 2 Na

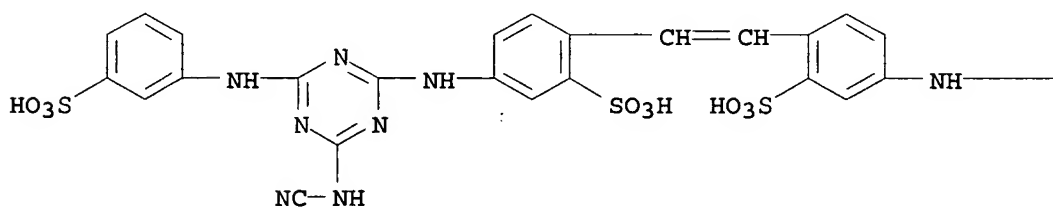
PAGE 1-B

—CH₂—OH

RN 33899-59-1 HCAPLUS

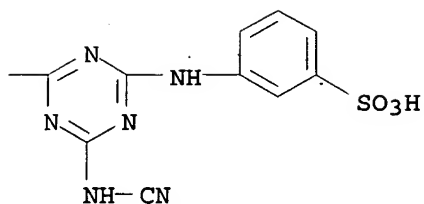
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-(cyanoamino)-6-[(3-sulfophenyl)amino]-1,3,5-triazin-2-yl]amino]-, hexasodium salt
(9CI) (CA INDEX NAME)

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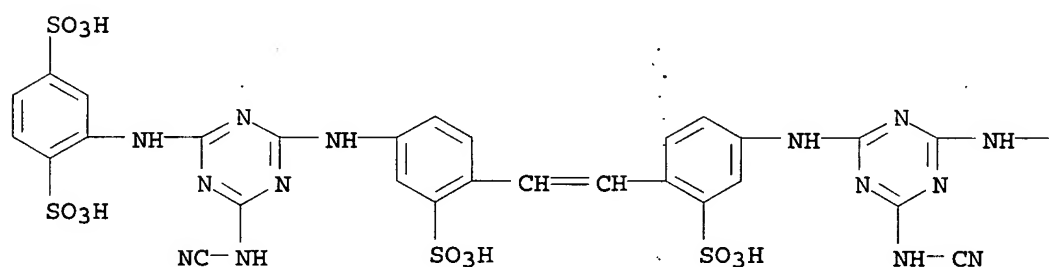
● 6 Na

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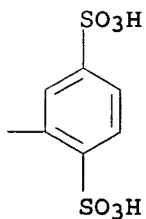
RN 33953-22-9 HCAPLUS
 CN 1,4-Benzenedisulfonic acid, 2,2'-[1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino[6-(cyanoamino)-1,3,5-triazine-4,2-diyl]imino]]bis-, octasodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



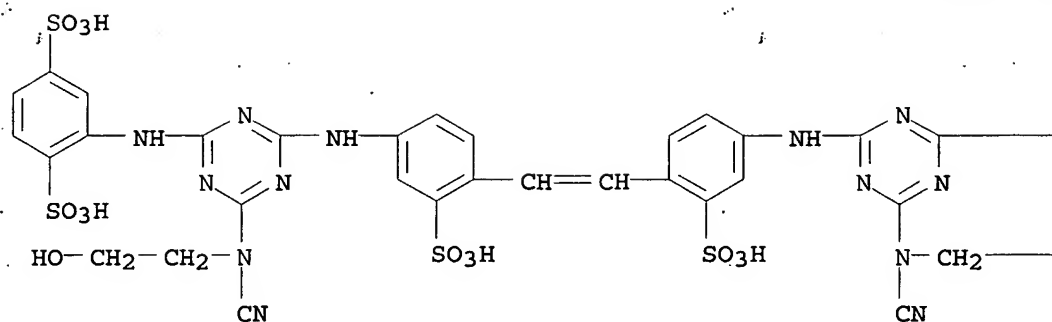
● 8 Na

PAGE 1-B



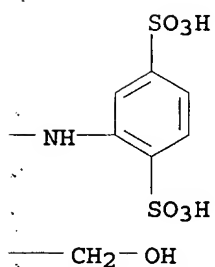
RN 33953-24-1 HCAPLUS
 CN 1,4-Benzenedisulfonic acid, 2,2'-[1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino[6-[cyano(2-hydroxyethyl)amino]-1,3,5-triazine-4,2-diyl]imino]]bis-, hexasodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



● 6 Na

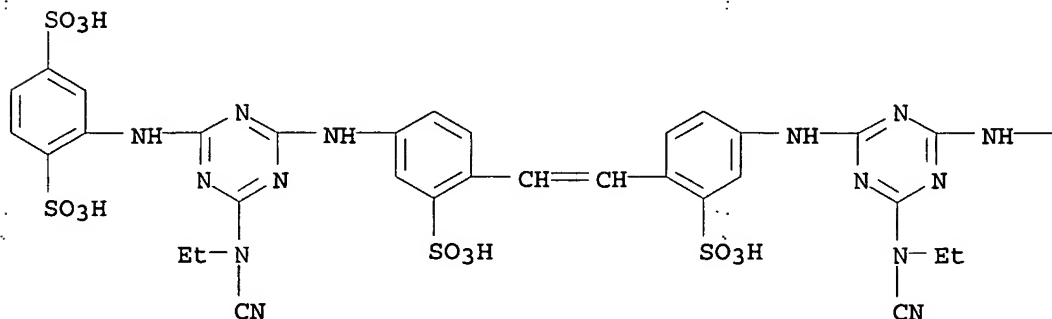
PAGE 1-B



RN 33953-25-2 HCAPLUS

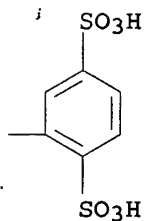
CN 1,4-Benzenedisulfonic acid, 2,2'-[1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino[6-(cyanoethylamino)-1,3,5-triazine-4,2-diyl]imino]]bis-, hexasodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



● 6 Na

PAGE 1-B



IC C09D
 INCL 260240000B
 CC 40-11 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)
 ST fluorescent whitener stilbenedisulfonate;
 cyanoamino fluorescent whitener; triazine
 fluorescent whitener
 IT Fluorescent brighteners
 (bis[[(cyanoamino)triazinyl]amino]stilbenedisulfonic acid deriv.,
 cotton, wool and paper pulp)
 IT Pulp, cellulose
 (fluorescent brighteners for,
 bis[[(cyanoamino)triazinyl]amino]stilbenedisulfonic acid derivs.
 as)
 IT 32063-39-1P 33899-54-6P 33899-55-7P
 33899-56-8P 33899-57-9P 33899-58-0P
 33899-59-1P 33953-22-9P 33953-23-0P
 33953-24-1P 33953-25-2P
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (prepn. of)

L46 ANSWER 19 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1972:503589 HCAPLUS

DOCUMENT NUMBER: 77:103589

TITLE: Clay-fluorescent whitener
 preparations for paper

INVENTOR(S): Kissling, Bruno; Pummer, Helmut

PATENT ASSIGNEE(S): Sandoz Ltd.

SOURCE: Patentschrift (Switz.), 8 pp.

CODEN: SWXXAS

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CH 522082	A	19720430	CH 1969-522082	196909 12
US 3684728	A	19720815	US 1970-71334	197009 11
GB 1294514	A	19721101	GB 1970-1294514	197009

PRIORITY APPLN. INFO.:

<--
CH 1969-13802

A

11

196909

12

<--
CH 1970-10733

A

197007

15

AB Mixts. of an anionic fluorescent whitener, such as a substituted bis(triazinylamino)stilbenedisulfonate, and a poly(amide-amine), such as that prepd. in Belg. 721,332, are added to kaolin and BaSO₄ which are then used as fillers for paper. The paper has better brightness than paper contg. fillers without a fluorescent whitener.

IT 37515-76-7

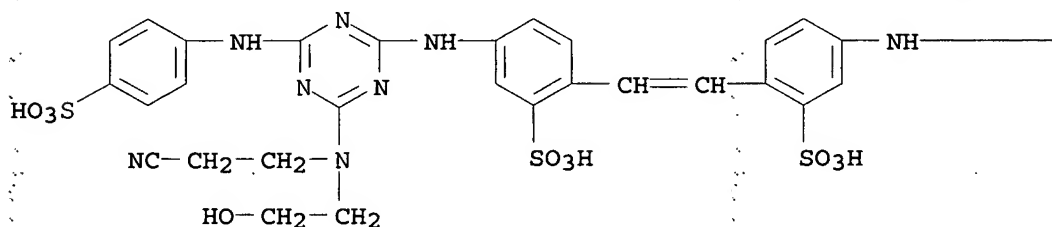
RL: USES (Uses)

(fluorescent brighteners, contg. kaolin and poly(amide-amine), for paper)

RN 37515-76-7 HCAPLUS

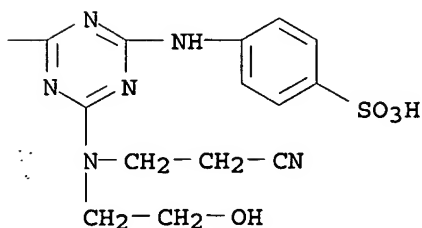
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[(2-cyanoethyl)(2-hydroxyethyl)amino]-6-[(4-sulfophenyl)amino]-1,3,5-triazin-2-yl]amino]-, tetrasodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



● 4 Na

PAGE 1-B



IC D21H; C09C

CC 43-7 (Cellulose, Lignin, Paper, and Other Wood Products)

ST fluorescent whitener kaolin paper; barium sulfate fluorescent whitener; brightness

paper fluorescent whitener; stilbene
 fluorescent whitener paper
 IT Polyamides, uses and miscellaneous
 RL: USES (Uses)
 (amino, fluorescent brighteners contg. kaolin
 and, for paper)
 IT **Fluorescent brighteners**
 (bis(triazinylamino)stilbenedisulfonate derivs., contg. kaolin
 and poly(amide-amine), for paper)
 IT Paper
 (fluorescent brighteners for,
 bis(triazinylamino)stilbenedisulfonate derivs. contg. kaolin and
 poly(amide-amine) as)
 IT Kaolin, uses and miscellaneous
 RL: USES (Uses)
 (fluorescent brighteners-contg., for paper)
 IT 13863-31-5 27344-06-5 37515-76-7 37515-77-8
 RL: USES (Uses)
 (fluorescent brighteners, contg. kaolin and
 poly(amide-amine), for paper)
 IT 7727-43-7
 RL: USES (Uses)
 (fluorescent brighteners-contg., for paper)

L46 ANSWER 20 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN.

ACCESSION NUMBER: 1972:476652 HCAPLUS
 DOCUMENT NUMBER: 77:76652
 TITLE: Polymeric dyes or fluorescent
 whitening agents
 INVENTOR(S): Horiguchi, Shojiro; Abe, Yoshio; Nakamura,
 Michie
 PATENT ASSIGNEE(S): Dainichiseika Color and Chemicals Manufg. Co.,
 Ltd.
 SOURCE: Jpn. Tokkyo Koho, 32 pp.
 CODEN: JAXXAD
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 47008460	B4	19720310	JP 1968-20694	196803 30

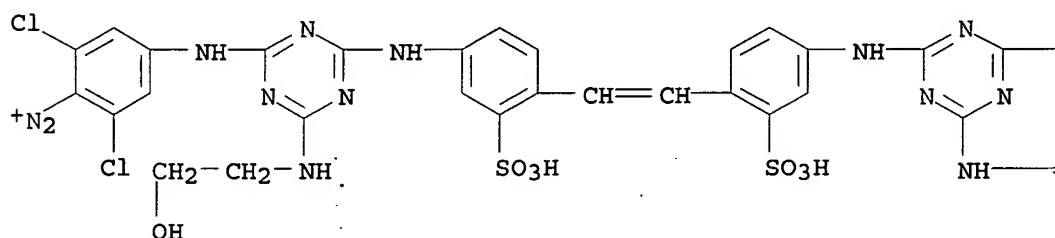
<--

AB Diazotized chromogens were mixed with monomers and polymd. in the
 presence of a diazo decomp. agent, e.g. TiCl₃, CuCl, powd. Cu,
 FeSO₄, NH₂OH, or Na₂SO₃. Thus, a 3:1 mixt. of
 4-nitrophthalimide and phthalimide was condensed with CuCl, reduced,
 and the Cu aminophthalocyanine diazotized and added to an aq.
 emulsion of Me methacrylate [80-62-6]. Addn. of 5% aq. TiCl₃ over 1
 hr caused polymn. at 33.deg.. The solid was repptd. from MeCOEt
 with aq. MeOH to give a polymeric dye for printing ink and plastics.
 Similarly, 2,4,6-tris[4-(p-aminobenzamido)anthraquinon-1-ylamino]-s-
 triazine, 7-aminocoumarin, and an aminoanilino stilbene
 fluorescent whitener were used as the amine. An
 amino group was introduced into oxazole, pyrazoline, naphthalimide,
 and anilinoanthracene fluorescent whiteners by

nitration and redn. Twenty-three polymers and copolymers were
prepd.

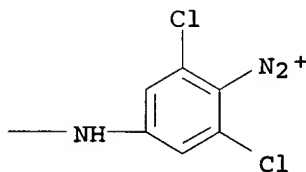
IT 37642-85-6
RL: USES (Uses)
(polymer modified by)
RN 37642-85-6 HCAPLUS
CN Benzenediazonium, 4,4'-[1,2-ethenediylbis[(3-sulfo-4,1-
phenylene)imino[6-[(2-hydroxyethyl)amino]-1,3,5-triazine-4,2-
diyl]imino]]bis[2,6-dichloro-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



● 2 Na

PAGE 1-B

—CH₂—CH₂—OH

IC C09B; C08F
CC 40-1 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)
Section cross-reference(s): 35, 36, 42
ST **fluorescent whitener** polymeric; dye polymeric;
methacrylate polymeric dye; polymer dye **fluorescent**
whitener; phthalocyanine polymeric dye
IT Dyes, reactive
Fluorescent brighteners
(Me methacrylate polymers modified by diazotized)
IT 9011-14-7
RL: USES (Uses)
(modified by diazotized dyes and diazotized **fluorescent**
brighteners)
IT 37557-91-8 37597-67-4 37642-85-6

RL: USES (Uses)
(polymer modified by)

L46 ANSWER 21 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1971:499257 HCAPLUS
 DOCUMENT NUMBER: 75:99257
 TITLE: Stilbene compounds as fluorescent
 whiteners
 INVENTOR(S): Balzer, Hans; Fleck, Fritz; Schmid, Hans Rudolf
 PATENT ASSIGNEE(S): Sandoz Ltd.
 SOURCE: Ger. Offen., 56 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2060085	A	19710616	DE 1970-2060085	197012 07
CH 529770	A	19721031	CH 1969-529770	196912 11
US 3757010	A	19730904	US 1970-95935	197012 07
ES 386268	A1	19740101	ES 1970-386268	197012 09
NL 7018032	A	19710615	NL 1970-18032	197012 10
FR 2073529	A5	19711001	FR 1970-44483	197012 10
GB 1299120	A	19721206	GB 1970-1299120	197012 10
JP 52007011	B4	19770226	JP 1970-110044	197012 10
ZA 7008379	A	19720726	ZA 1970-8379	197012 11
JP 49024127	B4	19740620	JP 1972-112819	197211 10

PRIORITY APPLN. INFO.:

CH 1969-18425

A

196912

11

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GI For diagram(s), see printed CA Issue.

AB Triazinylaminostilbenes (I, R = H, CH₂CH₂CONH₂, R₁ = Ph, (CH₂)₃NEt₂, R₂ = R₃ = Et or R₂R₃N = morpholino, R₄ = Ph, (CH₂)₃NEt₂, 0-C₆H₄Me) contg. tertiary amino groups, and optionally quaternized, were prepd. for use as fluorescent whiteners which retained their whitening properties in the presence of cationic softeners. For example, cyanuric chloride was condensed with 4,4'-diaminostilbene-2,2'-disulfonic acid, the product condensed 1 hr with PhNH₂ in 10% NaOH at 40°, then condensed 5 hr with Et₂N(CH₂)₃NCH₂CH₂CONH₂ in 10% NaOH at 95-100°, giving di-Na 4,4'-bis[[6-anilino-4-[N-[3-(diethylamino)propyl]-N-(2-carbamoylethyl)amino]triazin-2-yl]amino]stilbene-2,2'-disulfonate (I, R = H, R₁ = R₄ = Ph, R₂ = R₃ = Et) which gave a whiteness value 80.5 when used in a softening compn. for bleached cotton fabric, compared to a value of 69 for a com. fluorescent whitener used similarly. Four other I were prepd.

IT 32892-88-9P 33763-21-2P 33763-22-3P

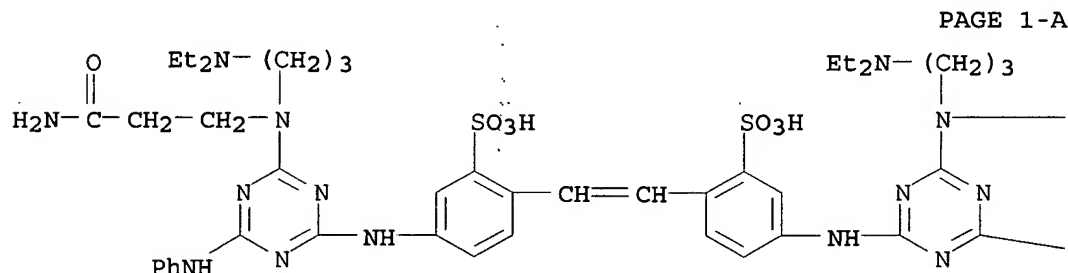
33799-89-2P 33909-80-7P

RL: IMF (Industrial manufacture); PREP (Preparation)

(prepn. of)

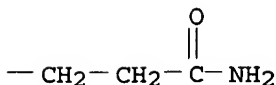
RN 32892-88-9 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[(3-amino-3-oxopropyl)[3-(diethylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



● 2 Na

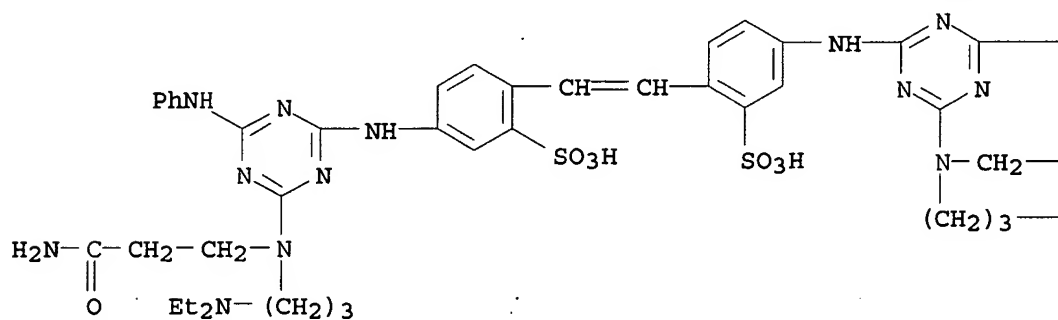
PAGE 1-B



—NHPh

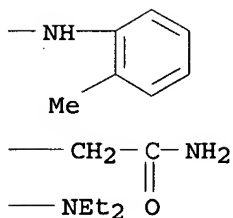
RN 33763-21-2 HCAPLUS
 CN Benzenesulfonic acid, 5-[[4-[(3-amino-3-oxopropyl)[3-(diethylamino)propyl]amino]-6-[(2-methylphenyl)amino]-1,3,5-triazin-2-yl]amino]-2-[2-[4-[[4-[(3-amino-3-oxopropyl)[3-(diethylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-2-sulfophenyl]ethenyl]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



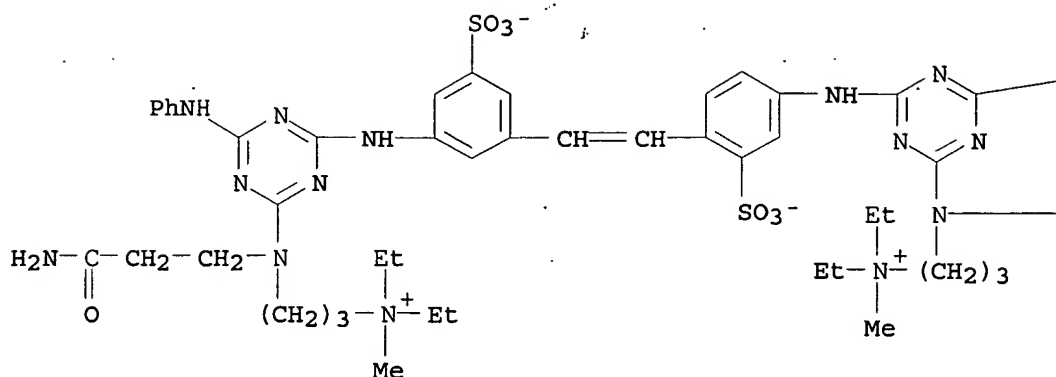
● 2 Na

PAGE 1-B



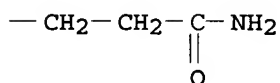
RN 33763-22-3 HCAPLUS
 CN 1-Propanaminium, 3,3'-[1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino[6-(phenylamino)-1,3,5-triazine-4,2-diyl][(3-amino-3-oxopropyl)imino]]]bis[N,N-diethyl-N-methyl-, bis(inner salt) (9CI) (CA INDEX NAME)

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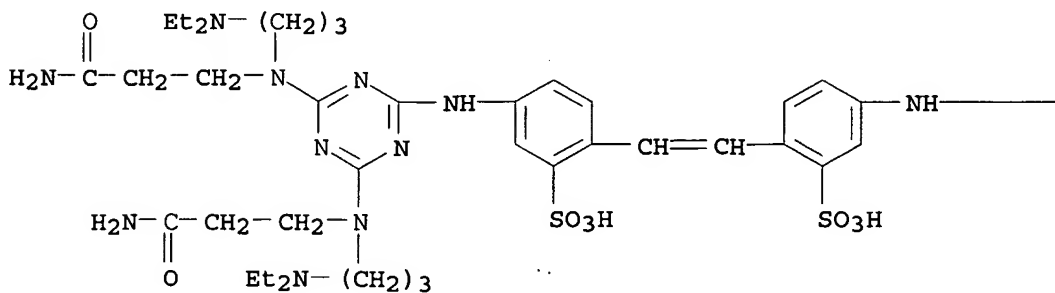
—NHPh



RN 33799-89-2 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4,6-bis[(3-amino-3-oxopropyl)[3-(diethylamino)propyl]amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

$$\begin{array}{c}
 \text{(CH}_2\text{)}_3\text{-N}^+\text{Et}_2 \quad \text{O} \\
 | \quad \quad \quad || \\
 \text{N-CH}_2\text{-CH}_2\text{-C-NH}_2 \\
 | \\
 \text{N} \\
 / \quad \backslash \\
 \text{N} \quad \text{N} \\
 \backslash \quad / \\
 \text{N} \\
 | \\
 \text{N-CH}_2\text{-CH}_2\text{-C-NH}_2 \\
 | \quad \quad \quad || \\
 \text{(CH}_2\text{)}_3\text{-N}^+\text{Et}_2 \quad \text{O}
 \end{array}$$

CN Benzenesulfonic acid, 5-[[4-[(3-amino-3-oxopropyl)[3-(4-morpholinyl)propyl]amino]-6-[(2-methylphenyl)amino]-1,3,5-triazin-2-yl]amino]-2-[2-[4-[[4-[(3-amino-3-oxopropyl)[3-(4-morpholinyl)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-2-sulfophenyl]ethenyl]-, disodium salt (9CI) (CA INDEX NAME)

O=S(=O)(O)c1ccc(cc1)/C=C/c2ccc(cc2)S(=O)(=O)Nc3nc(NC4=CC=CC=C4)c5nc(NC6CCN(CC6)CCNC(=O)N)nc53

●₂ Na

Cc1ccccc1NC(=O)CC

MEI HUANG EIC1700 REM4B28 571-272-3952

08/17/2006

CC 40 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)
ST triazine aminostilbene fluorescent whitener;
stilbene triazinylamino fluorescent whitener;
softener compatible fluorescent whitener;
aminostilbene fluorescent whitener
IT Fluorescent brightening agents
(bis(triazinylamino)stilbenedisulfonic acid derivs., cotton)
IT 32892-88-9P 33763-21-2P 33763-22-3P
33799-89-2P 33909-80-7P
RL: IMF (Industrial manufacture); PREP (Preparation)
(prepn. of)

L46 ANSWER 22 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1969:38907 HCAPLUS
DOCUMENT NUMBER: 70:38907
TITLE: Substituted 4,4'-bis(triazinylamino)stilbenes
PATENT ASSIGNEE(S): Geigy, J. R., A.-G.
SOURCE: Brit., 6 pp.
CODEN: BRXXAA
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
GB 1129548		19681009	GB 1967-29800	196706 28
CH 474601			CH	
FR 1529366			FR	
US 3546218		19701208	US	196606 29
US 3676339		19720711	US	197004 16
PRIORITY APPLN. INFO.:			US	196606 29

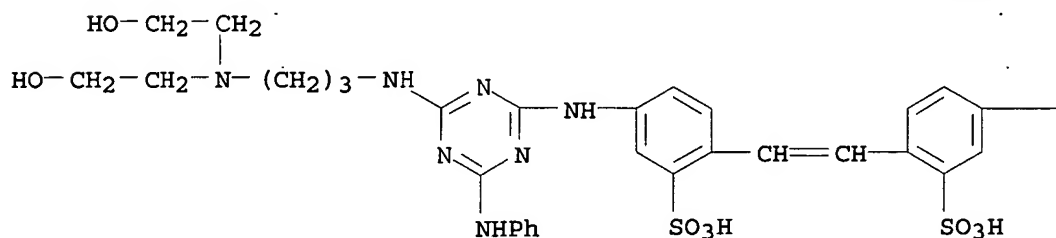
GI For diagram(s), see printed CA Issue.
AB I, where X is Y(CH₂)₃NH (Q), are fluorescent
whitening agents. Thus, 71 g. (HOCH₂CH₂)₂NCH₂CH₂CH₂NH₂ (II)
was added with stirring to a slurry of 150 g. I (X = Cl, R = H)
(III) in 1200 ml. H₂O, the mixt. heated to 90°, the
pH, which decreased to 9.5-10, maintained at 10.5-11 by adding 16 g.
50% NaOH, the mixt. cooled to room temp., the mother
liquor decanted, 1200 ml. H₂O and 300 g. NaCl added, the solids
ground in a wet slurry with 400 ml. 25% aq. NaCl, acidified to pH 2
with 37% HCl, filtered, washed acid-free and vacuum-dried to give
120 g. light yellow I [X = Q, Y = (HOCH₂CH₂)₂N (Z), R = H].
Similarly, other I (X = Q) were prepd. (Y and R given): Z, SO₃H;
Me₂N, H; morpholino, NMeCH₂CH₂CH₂NH₂, H.
IT 19523-47-8P 19523-49-0P 19643-44-8P
20982-06-3P 20982-10-9P 22301-97-9P

RL: IMF (Industrial manufacture); PREP (Preparation)
(prepn. of)

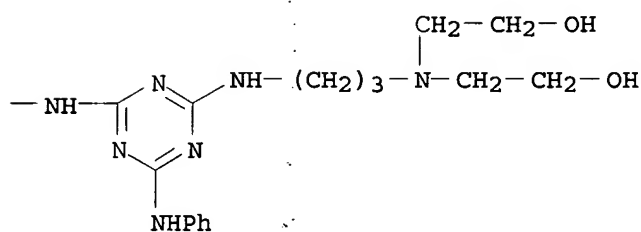
RN 19523-47-8 HCAPLUS

CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-anilino-6-[[3-[bis(2-hydroxyethyl)amino]propyl]amino]-s-triazin-2-yl]amino]- (8CI) (CA INDEX NAME)

PAGE 1-A



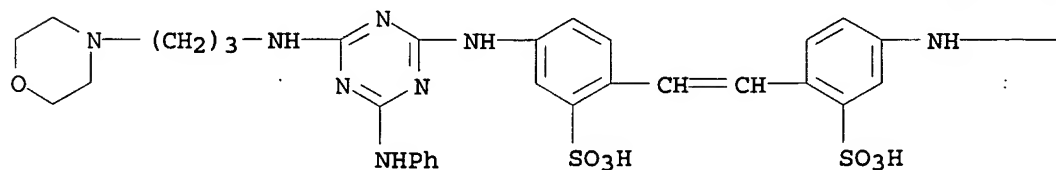
PAGE 1-B



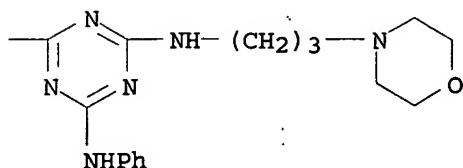
RN 19523-49-0 HCAPLUS

CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-anilino-6-[(3-morpholinopropyl)amino]-s-triazin-2-yl]amino]- (8CI) (CA INDEX NAME)

PAGE 1-A



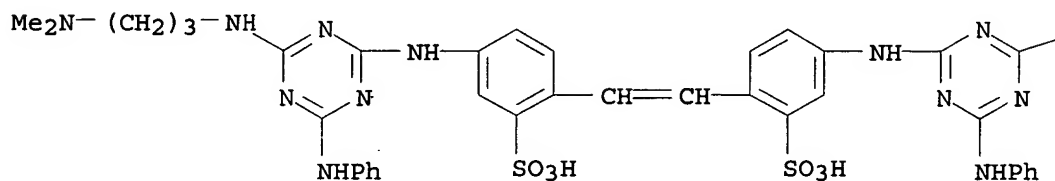
PAGE 1-B



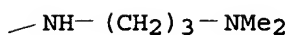
RN 19643-44-8 HCAPLUS

CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-anilino-6-[[3-(dimethylamino)propyl]amino]-s-triazin-2-yl]amino]- (8CI) (CA INDEX NAME)

PAGE 1-A



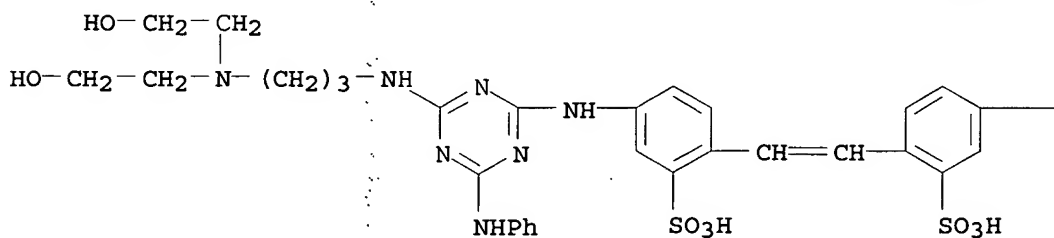
PAGE 1-B



RN 20982-06-3 HCAPLUS

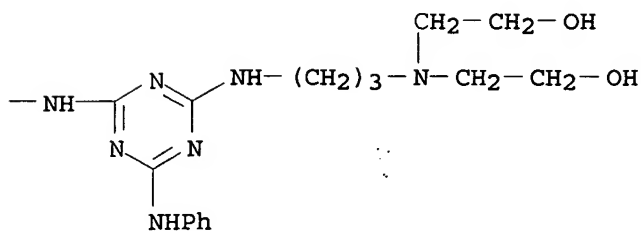
CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-anilino-6-[[3-[bis(2-hydroxyethyl)amino]propyl]amino]-s-triazin-2-yl]amino]-, disodium salt (8CI) (CA INDEX NAME)

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● 2 Na

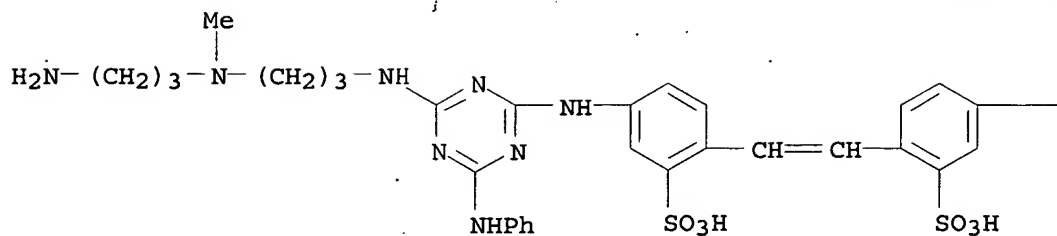
PAGE 1-B



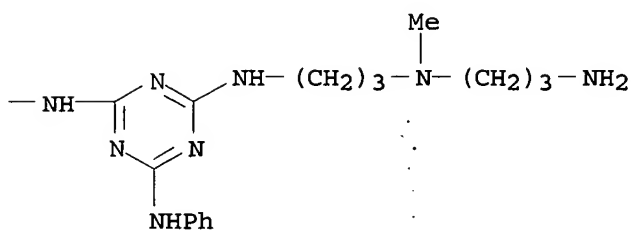
RN 20982-10-9 HCAPLUS

CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-[[3-[(3-aminopropyl)methylamino]propyl]amino]-6-anilino-s-triazin-2-yl]amino]- (8CI) (CA INDEX NAME)

PAGE 1-A



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RN 22301-97-9 HCAPLUS

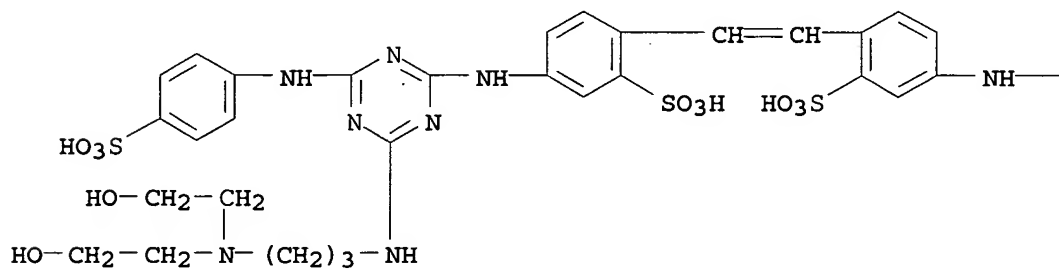
CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-[[3-[bis(2-hydroxyethyl)amino]propyl]amino]-6-(p-sulfoanilino)-s-triazin-2-yl]amino]-, compd. with 2,2',2''-nitrilotriethanol (8CI) (CA INDEX NAME)

CM 1

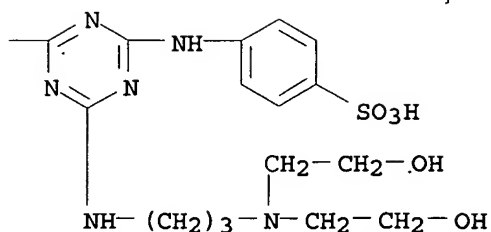
CRN 19523-48-9

CMF C46 H58 N14 O16 S4

PAGE 1-A

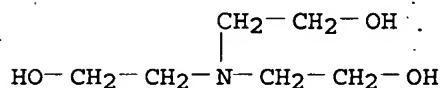


PAGE 1-B



CM 2

CRN 102-71-6
CMF C6 H15 N O3



IC C07D
CC 40 (Dyes, Fluorescent Brightening Agents, and Photosensitizers)
ST triazines stilbenes dyes; stilbenes triazines dyes; dyes triazines stilbenes; **fluorescent whitening agents**; whitening agents triazines stilbenes
IT **Fluorescent brightening agents**
(4,4'-bis[(s-triazin-2-yl)amino]-2,2'-stilbenedisulfonic acid derivs., for cotton)
IT 19523-47-8P 19523-49-0P 19643-44-8P
20982-06-3P 20982-10-9P 22301-97-9P
RL: IMF (Industrial manufacture); PREP (Preparation)
(prepn. of)

L46 ANSWER 23 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1968:31050 HCAPLUS
DOCUMENT NUMBER: 68:31050
TITLE: Stilbene optical brighteners
INVENTOR(S): Roussos, Michel; Dutheil, Jacques
PATENT ASSIGNEE(S): Societe de Produits Chimiques et de Synthese
SOURCE: Fr., 3 pp.
CODEN: FRXXAK
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 1479540		19670505	FR	19660325

GI For diagram(s), see printed CA Issue.

MEI HUANG EIC1700 REM4B28 571-272-3952

08/17/2006

AB Compds. of the formula I, useful as optical brighteners for cellulose and polyamide fibers, were prepd. Thus, 320 g. ice and a soln. of 37 g. [4,2-H₂N(NaO₃S)C₆H₃CH:]₂ in 320 cc. H₂O were added at 5° to a soln. of 39.5 g. cyanuric chloride in 250 cc. Me₂CO, the mixt. stirred at 8-10° for 1 hr., neutralized with NaOH, treated with 38 g. 4-H₂NC₆H₄SO₂NH₂, heated at 35° for 150 min. while maintaining pH 6-7 with 30% NaOH, 31.6 g. N-(3-aminopropyl)morpholine and 18.5 g. NaHCO₃ added, heated to 90-5°, Me₂CO distd., the mixt. heated to 125° for 3 hrs., added to 1 l. H₂O at 90°, and acidified (pH 4) with HCl to give I (X = 4-NHC₆H₄SO₂NH₂), E_{1%1} cm. = 480 at 350 mμ (50% EtOH). Similarly, the following I were prepd. (X, λ_{max}. in mμ and E_{1%1} cm. given): 4-NHC₆H₄CO₂H, 347, 460; 4-NHC₆H₄SO₂CH₂CH₂OH, 350, 400; NHMe, 348, 550; OMe, 345, 470; N(CH₂CH₂OH)₂, 350, 450.

IT 17121-40-3P 17121-42-5P 17139-46-7P

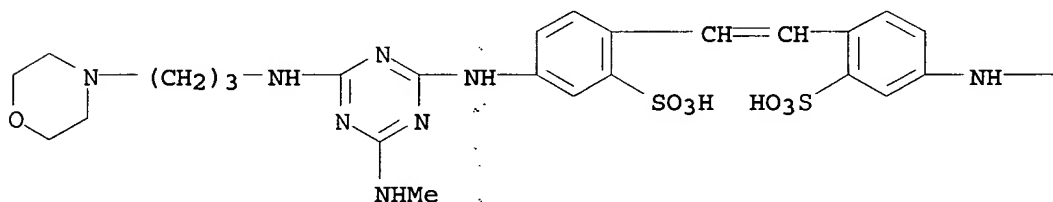
17139-47-8P 17233-75-9P

RL: IMF (Industrial manufacture); PREP (Preparation)
(prepn. of)

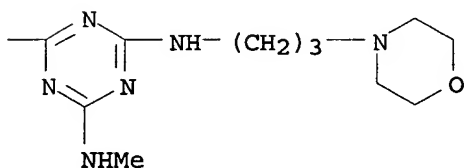
RN 17121-40-3 HCAPLUS

CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-(methylamino)-6-[(3-morpholinopropyl)amino]-s-triazin-2-yl]amino]- (8CI) (CA INDEX NAME)

PAGE 1-A



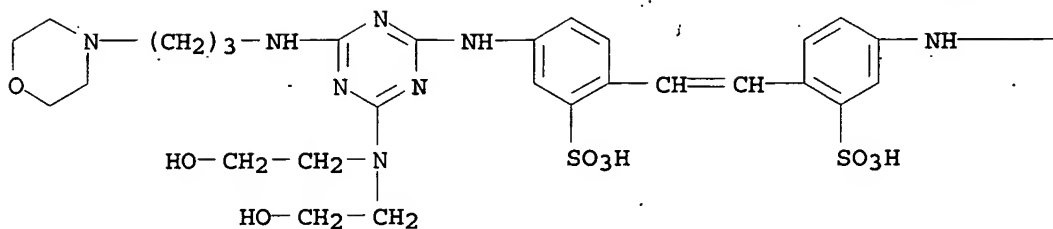
PAGE 1-B



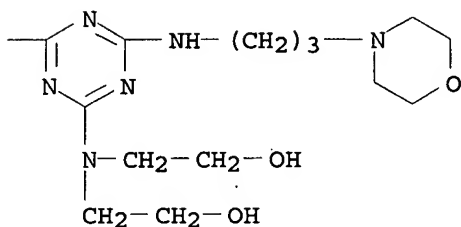
RN 17121-42-5 HCAPLUS

CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-[bis(2-hydroxyethyl)amino]-6-[(3-morpholinopropyl)amino]-s-triazin-2-yl]amino]- (8CI) (CA INDEX NAME)

PAGE 1-A

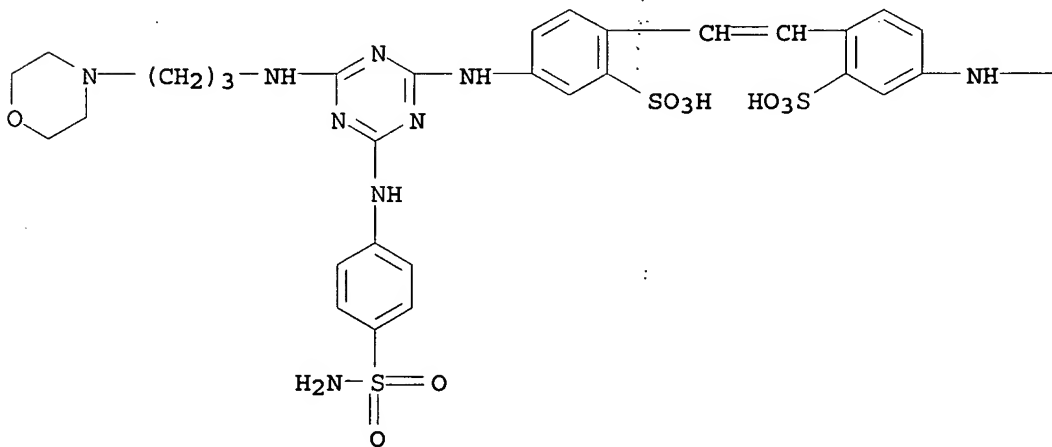


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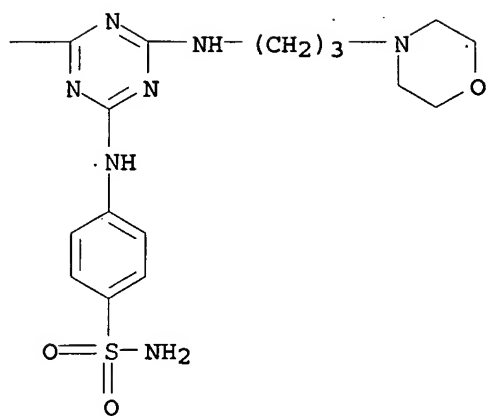


RN 17139-46-7 HCAPLUS
 CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-[(3-morpholinopropyl)amino]-6-(p-sulfamoylanilino)-s-triazin-2-yl]amino]-
 (8CI) (CA INDEX NAME)

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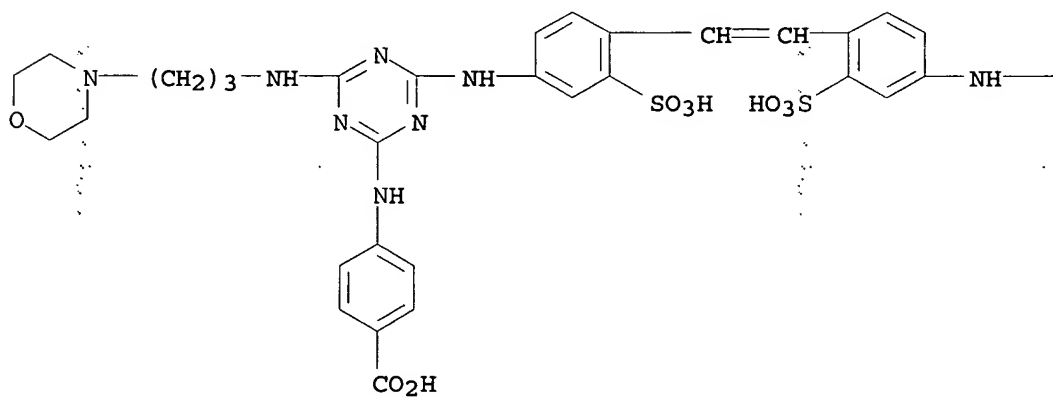


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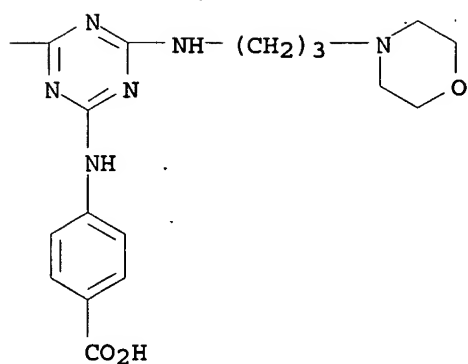


RN 17139-47-8 HCAPLUS
 CN Benzoic acid, 4,4'-[vinylenebis[(3-sulfo-p-phenylene)imino[6-[(3-morpholinopropyl)amino]-s-triazine-4,2-diyl]imino]]di- (8CI) (CA INDEX NAME)

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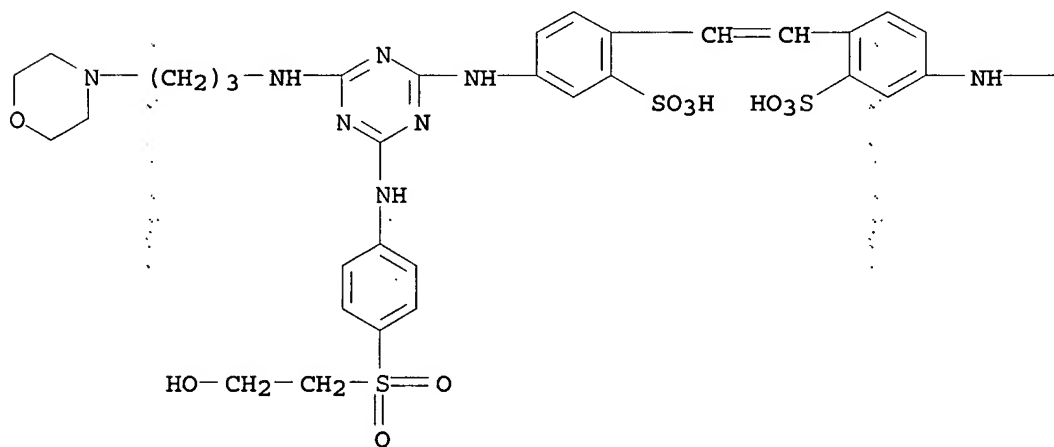
PAGE 1-B



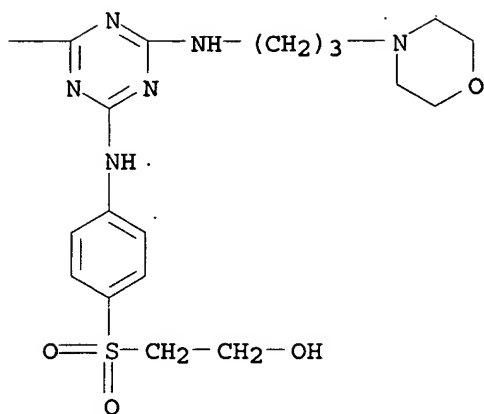
RN 17233-75-9 HCAPLUS

CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-[p-[(2-hydroxyethyl) sulfonyl] anilino]-6-[(3-morpholinopropyl) amino]-s-triazin-2-yl]amino]- (8CI) (CA INDEX NAME)

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PAGE 1-B



IC C09B
 CC 40 (Dyes, Fluorescent Brightening Agents, and Photosensitizers)
 ST OPTICAL BRIGHTENERS STILBENE; NYLON BRIGHTENERS;
 FLUORESCENT BRIGHTENERS; CELLULOSE
 BRIGHTENERS; STILBENE OPTICAL BRIGHTENERS;
 POLYAMIDE BRIGHTENERS
 IT Fluorescent brightening agents
 (4,4'-bis[[4-[(3-morpholinopropyl)amino]-s-triazin-2-yl]amino]-
 2,2'-stilbenedisulfonic acid derivs. as)
 IT Fluorescent brightening agents
 RL: USES (Uses)
 (bis(morpholinopropylamino)-(triazinylamino)stilbenedisulfonic
 acid derivs.)
 IT 17121-40-3P 17121-41-4P 17121-42-5P
 17139-46-7P 17139-47-8P 17233-75-9P
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (prepn. of)

L46 ANSWER 24 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1966:482795 HCAPLUS
 DOCUMENT NUMBER: 65:82795
 ORIGINAL REFERENCE NO.: 65:15542a-d
 TITLE: Polymers with permanently built-in
 fluorescent compounds
 PATENT ASSIGNEE(S): Dainichiseika Color & Chemicals Manuf. Co., Ltd.
 SOURCE: 17 pp.
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
NL 6516713		19660623	NL 1965-16713	196512 22

PRIORITY APPLN. INFO.:

JP

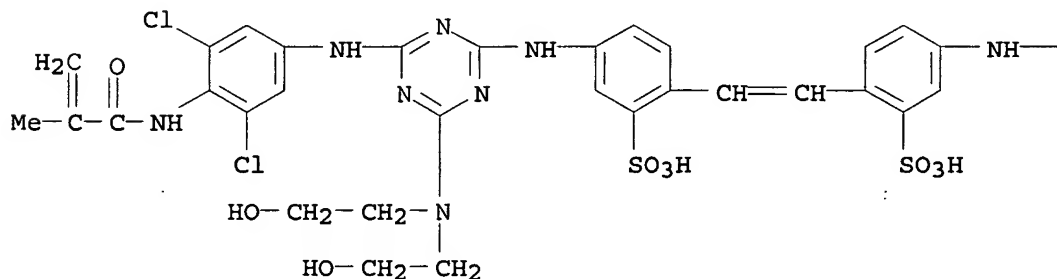
MEI HUANG EIC1700 REM4B28 571-272-3952

08/17/2006

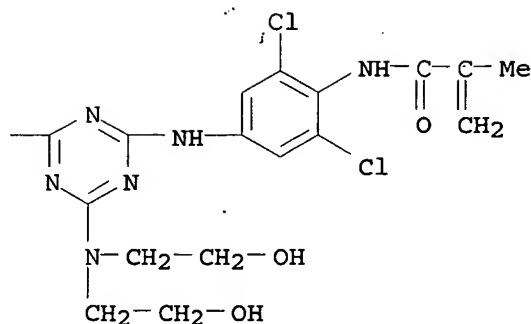
196412
22

- GI For diagram(s), see printed CA Issue.
- AB Fading and extn. with H₂O are well known disadvantages of fluorescent compds. If a fluorescent compd. contg. a free radical is polymd. with one or more of the usual monomers, the polymer with the built-in fluorescent compd. does not have these disadvantages. This polymer can also be used for reaction with other free radicals contg. substances such as precondensed thermosetting resins. Thus, 10 g. Na⁺ diamino-stilbenedisulfonic acid was dispersed in 90 g. acetone and 7.5 g. pyridine added. After 30 min. 10.5 g. methacryloyl chloride was added at 5-10° and the mixt. stirred for 2 h. to 17 g. (I). To 100 g. H₂O 10 g. I, 30 g. acrylamide, and 0.4 g. K₂S₂O₈ were added and the soln. was kept at 70° 3 h. The polymer was pptd. with MeOH, redissolved in 300 g. H₂O, and the pH adjusted to 9-9.5 with 5% aq. Na₂CO₃. This polymer soln. was added to 40 g. HCHO and then methylated at 60° 30 min. This soln. was used to impregnate fabrics, paper, etc., which were heat treated. A permanent fluorescent character was obtained.
- IT 13941-13-4, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-[bis(2-hydroxyethyl)amino]-6-(3,5-dichloro-4-methacrylamidoanilino)-s-triazin-2-yl]amino]-(polymn. of, with acrylates, olefins, vinyl compds., etc., and permanently fluorescent polymers therefrom)
- RN 13941-13-4 HCAPLUS
- CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-[bis(2-hydroxyethyl)amino]-6-(3,5-dichloro-4-methacrylamidoanilino)-s-triazin-2-yl]amino]-(7CI, 8CI) (CA INDEX NAME)

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- IC C08F
 CC 45 (Synthetic High Polymers)
 IT Polymers
 (flourescent)
 IT **Flourescent** substances
 (homopolymer)
 IT Polymerization
 (of **flourescent** compds. with acrylates, olefins, vinyl
 compds., etc.)
 IT Methacrylic acid, 3-ester with 7-[(2,3-dihydroxypropyl)amino]coumarin,
 polymer with acrylate
 (olefins, etc., to **flourescent** polymers)
 IT 1,2-Propanediol, 3-chloro-, 1-acrylate, homopolymer
 1,2-Propanediol, 3-chloro-, 1-methacrylate, homopolymer
 Methacrylamide, polymer with 2-ethylhexyl methacrylate
 Methacrylic acid, 3-chloro-2-hydroxypropyl ester, homopolymer
 Vinyl acetate, polymer with Et vinyl oxalate
 (with **flourescent** compds.)
 IT 27056-93-5, Acrylic acid, butyl ester, polymer with vinyl propionate
 (Bu ester polymn., with **flourescent** compds.)
 IT 107-25-5, Ether, methyl vinyl
 (ethyldifluoroaluminum as catalyst in, with **flourescent**
 compds.)
 IT 79-10-7, Acrylic acid
 (polymn. of (and acrylic acid derivs.), with **flourescent**
 compds.)
 IT 13544-69-9, Coumarin, 7-[(2,3-dihydroxypropyl)amino]-,
 3-methacrylate 13544-70-2, Acrylamide, N-[2,3-dihydro-1,3-dioxo-2-
 (2,4-xyllyl)-1H-benz[de]isoquinolin-6-yl]-2-methyl- 13544-71-3,
 Acrylamide, N-(11-methoxy-7-oxo-7H-benzimidazo[2,1-
 a]benz[de]isoquinolin-4-yl)-2-methyl- 13941-12-3,
 2,2'-Stilbenedisulfonic acid, 4,4'-dimethacrylamido-
 13941-13-4, 2,2'-Stilbenedisulfonic acid,
 4,4'-bis[[4-[bis(2-hydroxyethyl)amino]-6-(3,5-dichloro-4-
 methacrylamidoanilino)-s-triazin-2-yl]amino]- 15607-26-8,
 Succinanic acid, 3-methylene-4'-(2-oxo-2H-naphtho[1,2-b]pyran-3-
 yl)- 15607-27-9, Acrylanilide, 4',4'''-(9,10-
 anthrylenediimino)bis[2-methyl- 30346-83-9, Acrylamide,
 N-(5,11-dihydro-5,11-dioxodibenzo[b, tuv]-naphtho[2,1-m]picenyl)-
 30346-84-0, Acrylamide, N-(8,16-dihydro-8,16-dioxopyranthrenyl)-2-
 methyl-
 (polymn. of, with acrylates, olefins, vinyl compds., etc., and
 permanently **flourescent** polymers therefrom)
 IT 75-01-4, Ethylene, chloro- 75-35-4, Ethylene, 1,1-dichloro-

- 78-79-5, Isoprene 78-94-4, 3-Buten-2-one 79-06-1, Acrylamide
 80-62-6, Methyl methacrylate 88-12-0, 2-Pyrrolidinone, 1-vinyl-
 100-42-5, Styrene 106-92-3, Propane, 1-(allyloxy)-2,3-epoxy-
 106-99-0, 1,3-Butadiene 107-13-1, Acrylonitrile 115-11-7,
 Propene, 2-methyl- (isobutylene) 126-99-8, 1,3-Butadiene,
 2-chloro- 556-52-5, 1-Propanol, 2,3-epoxy- 814-68-6, Acryloyl
 chloride 923-02-4, Acrylamide, N-(hydroxymethyl)-2-methyl-
 924-42-5, Acrylamide, N-(hydroxymethyl)- 1337-81-1, Pyridine,
 vinyl- 2499-59-4, Acrylic acid, octyl ester 3194-70-5,
 s-Triazine, 2,4-diamino-6-vinyl- 3326-90-7, Acrylic acid,
 3-chloro-2-hydroxypropyl ester 13370-08-6, Urea, vinyl-
 13544-74-6, Methanol, [(6-vinyl-s-triazine-2,4-
 diyl)bis(methylimino)]di- 13544-75-7, Acrylamide,
 N-butyl-N-(hydroxymethyl)- 13941-15-6, Methanol,
 [(6-vinyl-s-triazine-2,4-diyl)bis(butylimino)]di-
 (polymn. of, with fluorescent compds.)
 IT 106-90-1, Acrylic acid, 2,3-epoxypropyl ester
 (polymn. with fluorescent compds.)
 IT 96-33-3, Acrylic acid, methyl ester 140-88-5, Acrylic acid, ethyl
 ester
 (polymn., with fluorescent compds.)
 IT 26937-45-1, Methacryloyl chloride, homopolymer 113889-78-4,
 Methacrylic acid, block polymer with Me methacrylate 790672-07-0,
 Methacrylic acid, polymer with Et vinyl sulfone
 (with fluorescent compds.)

L46 ANSWER 25 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1963:416107 HCAPLUS
 DOCUMENT NUMBER: 59:16107
 ORIGINAL REFERENCE NO.: 59:2977e-f,2978a-f
 TITLE: p,p'-Diaminostilbene optical bleaching agents
 INVENTOR(S): Frey, Raymond
 PATENT ASSIGNEE(S): Compagnie Francaise des Matieres Colorantes
 SOURCE: 7 pp.
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3045013		19620717	US	
GB 923122			GB	
PRIORITY APPLN. INFO.:			FR	
				195806
				11

- GI For diagram(s), see printed CA Issue.
 AB [4,2-H₂(NaO₃S)C₆H₃CH:]₂ (I) is condensed with the condensation
 products of NH₃ or Na₂S, cyanuric chloride or bromide, amines, and
 phenols to give compds. of the general formula II, where Z is a
 divalent S, NH, or NH(CH₂)₂NH radical, X is morpholino, OH, PhO, or
 NH(CH₂)₂OH, W is morpholino or PhNH, and Y is morpholino, PhNH, or
 o-ClC₆H₄O. II are optical bleaching agents stable to oxidn. and
 useful in detergents and washing powders. Thus, a soln. of cyanuric
 chloride (III) 370 in Me₂CO 1110 is added to a neutral soln. of I
 414 parts at 0-5°, the mixt. being kept weakly
 acidic by the addn. of 10% Na₂CO₃. The mixt. is heated at
 30°, 170 parts 20% NH₃ is added, the mixt. is

neutralized with 10% Na₂CO₃, and cooled to 0-5°. A soln. of III 370 in Me₂CO 1110 parts is added slowly with stirring at pH 5.5-6.6 (10% Na₂CO₃), and a suspension of 859 parts II (Z = NH, W = X = Cl) is obtained. PhNH₂.HCl (518 parts) is added, the mixt. is heated at 40° and kept weakly acidic by the addn. of 4240 parts 10% Na₂CO₃, agitated until the free PhNH₂ disappears, made alk. with 1060 parts 10% Na₂CO₃, heated at 90°, and stirred until the pH becomes neutral, and salted with 15% NaCl to give II (Z = NH, X = OH, W = Y = PhNH), a light yellow powder. Similarly prepd. are II (Z, X, Y, W, and appearance given): NH, NH(CH₂)₂OH, PhNH, PhNH, light yellow, NH, NH(CH₂)₂OH, morpholino, morpholino, light yellow, NH, OH, morpholino, morpholino, -; NH, morpholino, morpholino, morpholino, greenish yellow; NH(CH₂)₂NH, OH, morpholino, morpholino, faintly yellow; NH, PhO, morpholino, morpholino, slightly yellow; S, OH, morpholino, morpholino, light yellow. Also prepd. are IV and V. Washing powder 1000 contg. Na dodecylbenzenesulfonate 100, Na₂CO₃ 600, Na polyphosphate 280, and carboxymethyl cellulose 20 parts, is mixed with 1 part II [Z = NH, X = NH(CH₂)₂OH, W = Y = PhNH], and cotton fabric is kept in a 1: 10 bath contg. 50 g. prepd. mixt. per l. at the b.p. for 30 min. to give fabric with increased whiteness.

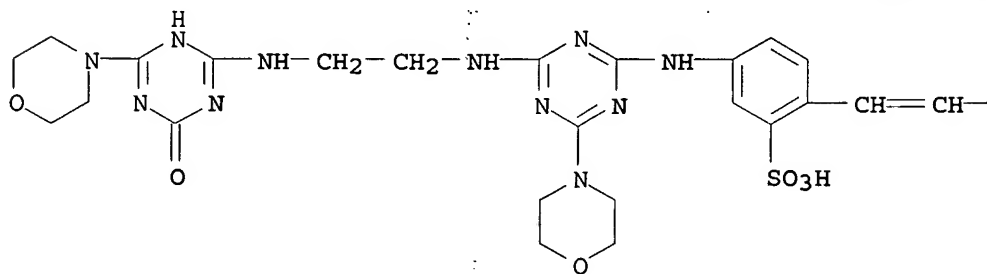
IT 106884-61-1, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-[[2-[(4-hydroxy-6-morpholino-s-triazin-2-yl)amino]ethyl]amino]-6-morpholino-s-triazin-2-yl]amino]-, disodium salt

(prepn. of)

RN 106884-61-1 HCAPLUS

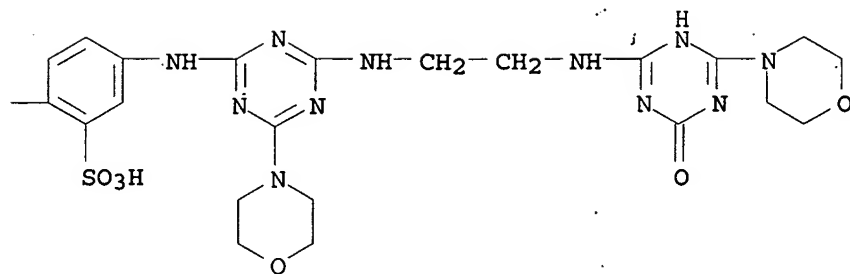
CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-[[2-[(4-hydroxy-6-morpholino-s-triazin-2-yl)amino]ethyl]amino]-6-morpholino-s-triazin-2-yl]amino]-, disodium salt (7CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

PAGE 1-B



INCL 260240000

CC 46 (Dyes)

IT Cleaning compositions

(bleaching agents (fluorescent or optical) for,
4,4'-bis[[(triazinyl amino)triazinyl]amino]-2,2'-stilbene
disulfonic acid derivs. as)

IT Bleaching agents

(fluorescent or optical, 4,4'-
bis[[(triazinylamino)triazinyl]amino]-2,2'-stilbenedisulfonic
acid derivs. as, for cotton and detergents)

IT 89381-74-8, Triazine, 2,2'-iminobis[4-chloro-6-morpholino-
89417-05-0, s-Triazine, 2,2'-thiobis[4,6-dichloro- 93657-60-4,
s-Triazine, 4-anilino-4'-phenoxy-2,2'-thiobis[6-chloro-
100154-95-8, s-Triazine, 4-(o-chlorophenoxy)-4'-(N-methylanilino)-
2,2'-iminobis[6-chloro- 101955-81-1, 2,2'-Stilbenedisulfonic acid,
4,4'-bis[[4-chloro-6-[(4,6-dichloro-s-triazin-2-yl)amino]-s-triazin-
2-yl]amino]- 106322-22-9, 2,2'-Stilbenedisulfonic acid,
4,4'-bis[[4-[(4-hydroxy-6-morpholino-s-triazin-2-yl)amino]-6-
morpholino-s-triazin-2-yl]amino]-, disodium salt 106385-15-3,
2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-[(4-hydroxy-6-morpholino-s-
triazin-2-yl)thio]-6-morpholino-s-triazin-2-yl]amino]-, disodium
salt 106408-38-2, 2,2'-Stilbenedisulfonic acid,
4-o-anisamido-4'-[[4-[[4-(o-chlorophenoxy)-6-morpholino-s-triazin-2-
yl]amino-6-morpholino-s-triazin-2-yl]amino]-, disodium salt
106628-35-7, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-[(4,6-
dimorpholino-s-triazin-2-yl)amino]-6-morpholino-s-triazin-2-yl]-
amino]-, disodium salt 106631-81-6, 2,2'-Stilbenedisulfonic acid,
4,4'-bis[[4-anilino-6-[(4-anilino-6-hydroxy-s-triazin-2-yl)amino]-s-
triazin-2-yl]amino]-, disodium salt 106884-61-1,
2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-[[2-[(4-hydroxy-6-
morpholino-s-triazin-2-yl)amino]ethyl]amino]-6-morpholino-s-triazin-
2-yl]amino]-, disodium salt 106906-37-0, 2,2'-Stilbenedisulfonic
acid, 4,4'-bis[[4-[[4-[(2-hydroxyethyl)amino]-6-morpholino-s-triazin-
2-yl]amino]-6-morpholino-s-triazin-2-yl]amino]-, disodium salt
106978-52-3, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-morpholino-6-
[(4-morpholino-6-phenoxy-s-triazin-2-yl)amino]-s-triazin-2-yl]amino]-
, disodium salt 106991-37-1, 2,2'-Stilbenedisulfonic acid,
4,4'-bis[[4-anilino-6-[[4-anilino-6-[(2-hydroxyethyl)amino]-s-
triazin-2-yl]amino]-s-triazin-2-yl]amino]-, disodium salt
107660-31-1, 2,2'-Stilbenedisulfonic acid, 4,4'-[[[iminobis[6-[bis(2-
hydroxyethyl)amino]-s-triazine-4,2-diyl]imino]]bis[4'-benzamido-
(prep. of)]

L46 ANSWER 26 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1963:82271 HCAPLUS

DOCUMENT NUMBER: 58:82271

MEI HUANG EIC1700 REM4B28 571-272-3952

08/17/2006

ORIGINAL REFERENCE NO.: 58:14164c-f
TITLE: Bis(triazinylamino)stilbenesulfonic acid
brightening agents
INVENTOR(S): Gehn, Robert; Schmidt, Oswald; Mertens,
Heinrich; Grunwald, Wolfgang; Hehl, Manfred
PATENT ASSIGNEE(S): Badische Anilin- & Soda-Fabrik AG
SOURCE: 8 pp.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
GB 908229		19621017	GB 1960-2193	196001 21
				195901 24

PRIORITY APPLN. INFO.:

DE

GI For diagram(s), see printed CA Issue.

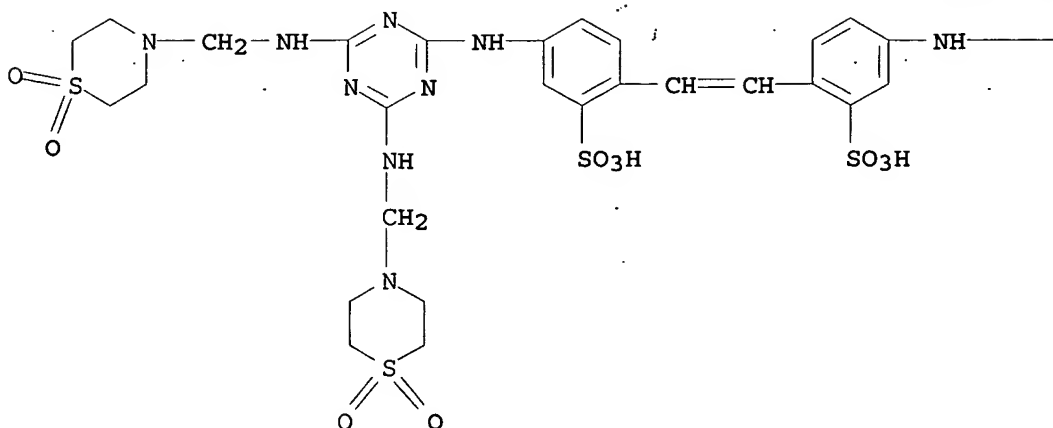
AB **Brightening agents** whose fluorescence is almost unimpaired by precondensates of thermosetting resins are prepd. having the general formula I, where X is NHC₂H₄OH or 1-aza-4,4-dioxo-4-thiacyclohex-1-yl. Thus, a soln. of 1-aza-4-thiacyclohexane 4,4-dioxide (II) 27 and Na₂CO₃ 10.6 in H₂O 400 was added to an aq. acetone suspension of cyanuric chloride 37 parts at 0-5°, and the **mixt.** was stirred for 1/2 hr. and filtered to give 50 parts N-(2,4-dichloro-s-triazinyl) deriv. (III), m.p. 216° (EtOH), of II. 4,4'-Diamino-2,2'-stilbenedisulfonic acid 64, and NaOH 27 in H₂O 1500 were added at 25° to III 94 in H₂O 1500 parts, the **mixt.** was stirred at +25° for 3 hrs., and filtered to give a product, 90 parts of which was refluxed for 3 hrs. with 31 parts HOCH₂CH₂NH₂ in 300 parts H₂O to give I, X = NHC₂H₄OH. Also prepd. was I, X = 1-aza-4,4-dioxo-4-thiacyclohex-1-yl.

IT 105861-85-6, 2,2'-Stilbenedisulfonic acid,
4,4'-bis[[4,6-bis[(thiomorpholinomethyl)amino]-s-triazin-2-yl]amino]-
, octaoxide, di-Na salt
(prepn. of)

RN 105861-85-6 HCAPLUS

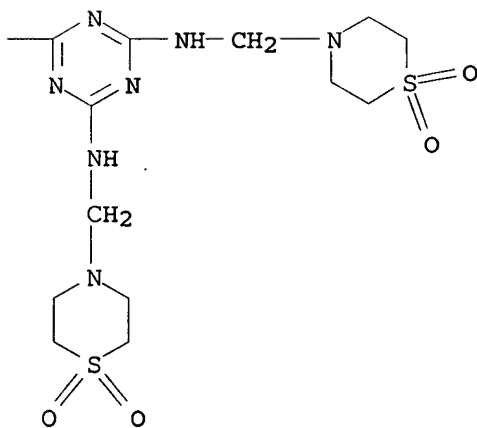
CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4,6-
bis[(thiomorpholinomethyl)amino]-s-triazin-2-yl]amino]-, octaoxide,
disodium salt (7CI) (CA INDEX NAME)

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● 2 Na

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- CC 46 (Dyes)
 IT Bleaching agents
 (fluorescent or optical, 4,4'-bis[(4,6-dichloro-s-triazin-2-yl)amino]-2,2'-stilbenedisulfonic acid as, for cellulose and polyamides)
 IT Amides
 (poly-, **brightening** (optical) agents for)
 IT 34570-38-2, s-Triazine, 2,4-dichloro-6-thiomorpholino-, S,S-dioxide
 74381-46-7, Benzaldehyde, (2,4-dinitrophenyl)hydrazone
 105255-41-2, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-[(2-hydroxyethyl)amino]-6-piperidino-s-triazin-2-yl]amino]-, disodium salt
 105282-88-0, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-[(2-hydroxyethyl)amino]-6-thiomorpholino-s-triazin-2-yl]amino]-, S,S,S',S'-tetraoxide, di-Na salt 105861-85-6,

2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4,6-bis[(thiomorpholinomethyl)amino]-s-triazin-2-yl]amino]-, octaoxide, di-Na salt 106198-50-9, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-(1-pyrrolidinyl)-6-thiomorpholino-s-triazin-2-yl]amino]-, S,S,S',S'-tetraoxide, di-Na salt
(prepn. of)

IT 16013-46-0, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[(4,6-dichloro-s-triazin-2-yl)-amino]-
(reaction products with amines as fluorescent brighteners)

L46 ANSWER 27 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1963:53875 HCAPLUS
DOCUMENT NUMBER: 58:53875
ORIGINAL REFERENCE NO.: 58:9265b-e
TITLE: Optical **brightening** agents
INVENTOR(S): Gehm, Robert; Schmidt, Oswald; Mertens, Heinrich; Grunwald, Wolfgang; Hehl, Manfred
PATENT ASSIGNEE(S): Badische Anilin- & Soda-Fabrik A.-G.
SOURCE: 7 pp.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 1105375		19610427	DE 1959-B51851	195901 24
US 3051704		19620828	US 1960-3265	196001 19

GI For diagram(s), see printed CA Issue.

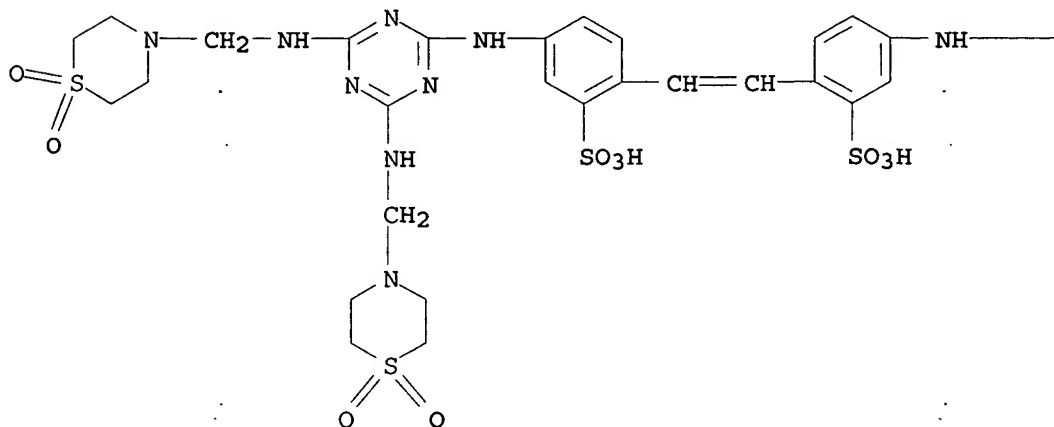
AB Compds. of the general structure I are more efficient optical bleaching agents for cellulose and nylon than analogs prepd. by using piperidine or morpholine in place of 1-aza-4-thiacyclohexane 4,4-dioxide (II). Thus, a soln. of cyanuric chloride 27 in Me₂CO 240 is stirred into a mixt. of ice 400 and H₂O 400, treated at 0-5° with a soln. of II 27 and NaHCO₃ 10.6 in H₂O 400, stirred for 0.5 hr., filtered and washed with ice water to give 50 parts N-(4,6-di-chloro-s-triazin-2-yl)azathiacyclohexane 4,4-dioxide (III), white needles (EtOH), m. 216°. A mixt. of III 94 and Me₂CO 1500 is treated at 25° with a soln. of [4,2-H₂N(HO₃S)C₆H₃CH:]₂ 64 and NaOH 27 in H₂O 1500 parts and stirred for 3 hrs. at 25° to give I [X = Cl (IV)] 82 parts; an addnl. 50 parts IV is recovered from the filtrate. A mixt. of IV 90 and H₂NCH₂CH₂OH 31 in H₂O 300 parts is refluxed for 3 hrs. to give I (X = NHCH₂-CH₂OH). Similarly, other I are prepd. (X given): 1-pyrrolidinyl; NMe₂; NH(CH₂)₃OMe; NH₂; morpholino. A soln. of VA 20 in 2N NaOH 300 treated with II 15 and 30% aq. HCHO 11 parts, heated for 7 hrs. at 70° and pptd. with HCl gives VB.

IT 105861-84-5, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4,6-bis[(thiomorpholinomethyl)amino]-s-triazin-2-yl]amino]-, octaoxide
(prepn. of)

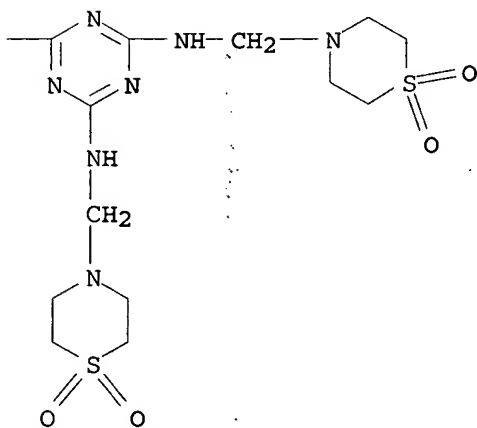
RN 105861-84-5 HCAPLUS

CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4,6-bis[(thiomorpholinomethyl)amino]-s-triazin-2-yl]amino]-, octaoxide (7CI) (CA INDEX NAME)

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INCL 8I

CC 46 (Dyes)

IT Bleaching agents

(fluorescent or optical, 4,4'-bis(thiomorpholino-s-triazin-2-yl)-2,2'-stilbenedisulfonic acid derivs. as, for cellulose and nylon)

IT Bleaching agents

(fluorescent or optical, stilbene derivs. of v-triazolo[4,5-e]indazole as, for polymers)

IT 34570-38-2, s-Triazine, 2,4-dichloro-6-thiomorpholino-, S,S-dioxide
 105282-88-0, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-[(2-hydroxyethyl)amino]-6-thiomorpholino-s-triazin-2-yl]amino]-, S,S,S',S'-tetraoxide, di-Na salt 105861-84-5,
 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4,6-

L46 ANSWER 28 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1962:423272 HCAPLUS
DOCUMENT NUMBER: 57:23272
ORIGINAL REFERENCE NO.: 57:4685c-g
TITLE: Triazinylstilbenesulfonic acids
INVENTOR(S): Fleck, Fritz
PATENT ASSIGNEE(S): Sandoz Ltd.
SOURCE: 4 pp.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
PATENT INFORMATION:

PRIORITY APPLN. INFO.:

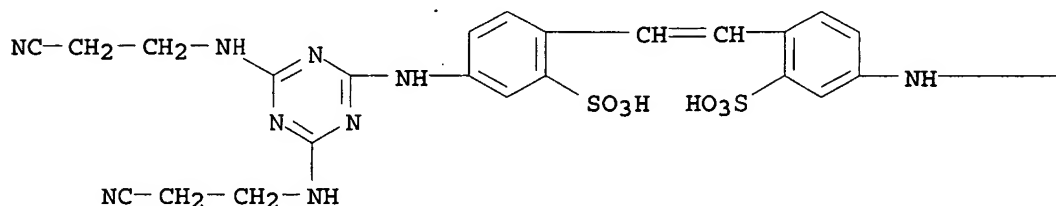
MEI HUANG EIC1700 REM4B28 571-272-3952

4,4'-bis[[4,6-bis[(2-cyanoethyl)amino]-s-triazin-2-yl]amino]-,
disodium salt
(prepn. of)

RN 105107-18-4 HCAPLUS

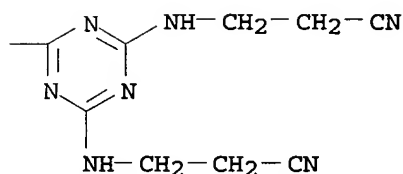
CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4,6-bis[(2-cyanoethyl)amino]-s-triazin-2-yl]amino]-, disodium salt (7CI) (CA INDEX NAME)

PAGE 1-A



● 2 Na

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INCL 12P

CC 32 (Heterocyclic Compounds-More than One Hetero Atom)

IT 105107-18-4, 2,2'-Stilbenedisulfonic acid,
4,4'-bis[[4,6-bis[(2-cyanoethyl)amino]-s-triazin-2-yl]amino]-,
disodium salt
(prepn. of)

L46 ANSWER 29 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1957:52180 HCAPLUS

DOCUMENT NUMBER: 51:52180

ORIGINAL REFERENCE NO.: 51:9718e-h

TITLE: Preparation of triazine trioxides using H2SO5

INVENTOR(S): Schroeder, Hansjuergen A.

PATENT ASSIGNEE(S): Olin Mathieson Chemical Corp.

DOCUMENT TYPE: Patent

LANGUAGE: Unavailable

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2780622		19570205	US	

AB In the temp. range 5-20° Caro's acid converts

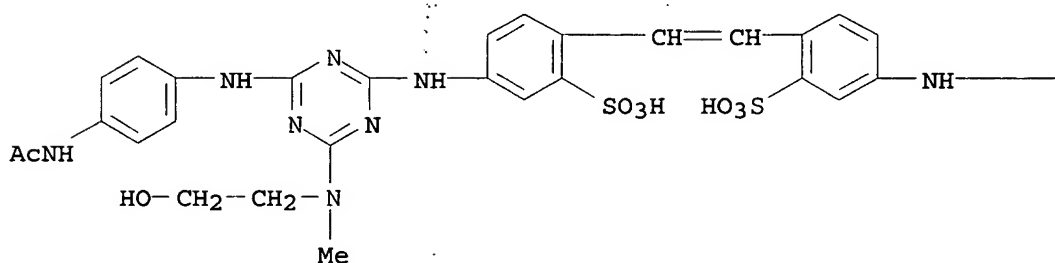
MEI HUANG EIC1700 REM4B28 571-272-3952

08/17/2006

2,4-diaryl-6-amino-1,3,5-triazines to 2-aryl-4-hydroxy-6-amino-1,3,5-triazine trioxides. Thus 2,4-diphenyl-6-amino-1,3,5-triazine 3 (parts by wt.) was dissolved in cold concd. H₂SO₄ 32 with stirring, the clear soln. treated with a cold mixt. of 30% H₂O₂ 30 and 30% oleum 120 parts dropwise with efficient stirring, and with the temp. kept at about 5°, the mixt. allowed to warm to 15° for 2 hrs., then kept 4 hrs. at 5°, poured onto 1000 parts crushed ice, 50% aq. KOH added with stirring and with the temp. kept below 10° until about one-third of the total acid was neutralized, and the ppt. appearing at this point filtered off immediately, washed with ice, H₂O and dried over P₂O₅. Complete neutralization of the mother liquor yielded a 2nd ppt., mainly 2-amino-4-hydroxy-6-phenyl-1,3,5-triazine. The crude product, 2-phenyl-4-hydroxy-6-amino-1,3,5-triazine tris(N-oxide) is obtained as a monohydrate, which, purified by recrystn., softened, apparently with loss of H₂O, at 160-70° and m. 244-6°. The compd. is also obtained in anhyd. form, m. 244-6° by heating the monohydrate 1 hr. at 190°. The alcoholate, m. 244-6°, after softening at 160° with loss of alc., is obtained by recrystn. from EtOH. When the starting material is 2,4-bis(p-chlorophenyl)-6-amino-1,3,5-triazine, the final product is 2-(p-chlorophenyl)-4-hydroxy-6-amino-1,3,5-triazine tris(N-oxide) monohydrate, softens at 165° and m. 269°.

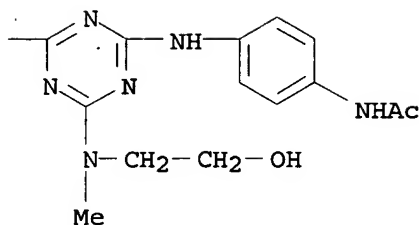
IT 108880-89-3, 2,2'-Stilbenedisulfonic acid,
4,4'-bis[[4-(p-acetamidoanilino)-6-[(2-hydroxyethyl)methylamino]-s-triazin-2-yl]amino]-, disodium salt
(prepn. of)
RN 108880-89-3 HCAPLUS
CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-(p-acetamidoanilino)-6-[(2-hydroxyethyl)methylamino]-s-triazin-2-yl]amino]-, disodium salt
(6CI) (CA INDEX NAME).

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● 2 Na

PAGE 1-B



CC 10 (Organic Chemistry)
 IT Bleaching agents
 (fluorescent or optical, 4,4'-bis(s-triazin-2-ylamino)-
 2,2'-stilbenedisulfonic acid derivs.)
 IT 767-17-9, s-Triazine-2-thiol, 4,6-diamino- 13863-31-5,
 2,2'-Stilbenedisulfonic acid, 4,4'-bis{{4-anilino-6-[(2-
 hydroxyethyl)methylamino]-s-triazin-2-yl}amino}-, disodium salt
 33957-63-0, s-Triazin-2-ol, 4-amino-6-phenyl- 98879-88-0,
 s-Triazin-2-ol, 4-amino-6-phenyl-, 1,3,5-trioxide 102014-86-8,
 s-Triazin-2-ol, 4-amino-6-(p-chlorophenyl)-, 1,3,5-trioxide
 108847-60-5, 2,2'-Stilbenedisulfonic acid, 4,4'-bis{{4-[(2-
 hydroxyethyl)methylamino]-6-(4-methyl-m-anisidino)-s-triazin-2-
 yl}amino}-, disodium salt 108847-62-7, 2,2'-Stilbenedisulfonic
 acid, 4,4'-bis{{4-p-anisidino-6-[ethyl(2-hydroxyethyl)amino]-s-
 triazin-2-yl}amino}-, disodium salt 108880-89-3,
 2,2'-Stilbenedisulfonic acid, 4,4'-bis{{4-(p-acetamidoanilino)-6-[(2-
 hydroxyethyl)methylamino]-s-triazin-2-yl}amino}-, disodium salt
 (prepn. of)

L46 ANSWER 30 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1957:21928 HCAPLUS
 DOCUMENT NUMBER: 51:21928
 ORIGINAL REFERENCE NO.: 51:4433f-h
 TITLE: Bis(triazinylamino)stilbene compounds
 INVENTOR(S): Hausermann, Heinrich
 PATENT ASSIGNEE(S): J. R. Geigy A.-G.
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

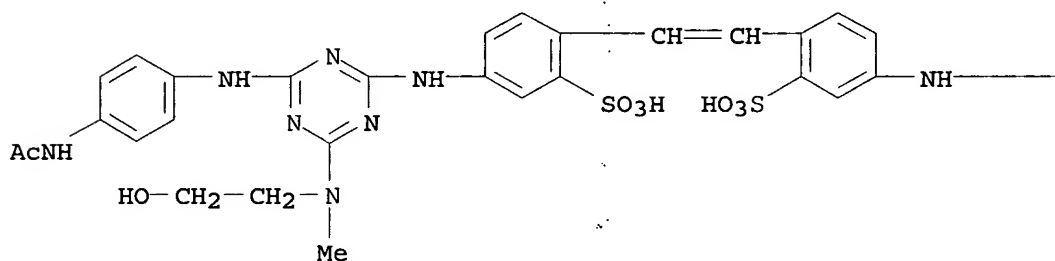
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2762801		19560911	US	

AB 4,4'-(4,6-R,R' substituted)-s-triazinyl-2,2'-stilbenedisulfonic
 acids (I), useful as optical brightening agents, were
 prepd. Cyanuric chloride 18.5 was dissolved in Me2CO 120 added to a
 mixt. of ice 200 and water 200, the suspension treated with
 stirring at pH 5.6 at 0-5° with 4,4'-diamino-2,2'-
 stilbenedisulfonic acid di-Na salt 20.7 in water 200 and a soln. of
 Na2CO3 5.3, and the resulting soln. stirred with PhNH2 9.3 at
 15-25° at a pH of 6.5-7.5 maintained by the slow addn. of
 Na2CO3 5.3 in water 25; after no more PhNH2 was present,
 HOCH2CH2NHMe (II) was added dropwise until the reaction mixt

. turned phenolphthalein paper red, the mixt. gradually heated to 90-5°, stirred 1.5 hrs. at this temp., the mixt. being always kept alk. to phenolphthalein with II (15-20 parts II being required); while heating, the Me₂CO was distd. and the resulting di-Na salt salted out with NaCl 75 parts, filtered off, washed with 5% NaCl soln., and dried in vacuo at 70-90° to give I (R = HOCH₂CH₂NMe (III) R' = PhNH) di-Na salt, yellowish powder, sol. in water. Similarly were prepd. the following di-Na salts (all yellow, water-sol. powders) of I (R, R' given): HOCH₂CH₂NEt, p-MeOC₆H₄NH; III, 3,4-MeO(Me)₂C₆H₃NH; III, p-MeOC₆H₄NH; III, p-AcNHC₆H₄NH.

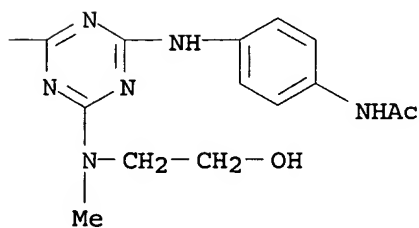
IT 108880-89-3, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-(p-acetamidoanilino)-6-[(2-hydroxyethyl)methylamino]-s-triazin-2-yl]amino]-, disodium salt (prepn. of)
 RN 108880-89-3 HCAPLUS
 CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-(p-acetamidoanilino)-6-[(2-hydroxyethyl)methylamino]-s-triazin-2-yl]amino]-, disodium salt (6CI) (CA INDEX NAME)

PAGE 1-A



● 2 Na

PAGE 1-B



CC 10 (Organic Chemistry)
 IT Bleaching agents

(fluorescent or optical, 4,4'-bis(s-triazin-2-ylamino)-2,2'-stilbenedisulfonic acid derivs.)

IT 13863-31-5, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-anilino-6-[(2-hydroxyethyl)methylamino]-s-triazin-2-yl]amino]-, disodium salt
 108847-60-5, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-[(2-hydroxyethyl)methyl-amino]-6-(4-methyl-m-anisidino)-s-triazin-2-

yl}amino}-, disodium salt 108847-62-7, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[{4-p-anisidino-6-[ethyl(2-hydroxyethyl)amino]-s-triazin-2-yl}amino]-, disodium salt 108880-89-3, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[{4-(p-acetamidoanilino)-6-[(2-hydroxyethyl)methylamino]-s-triazin-2-yl}amino]-, disodium salt (prepn. of)

L46 ANSWER 31 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1953:39337 HCAPLUS
DOCUMENT NUMBER: 47:39337
ORIGINAL REFERENCE NO.: 47:6667e-h
TITLE: Triazine substances for textile treatment
INVENTOR(S): Wilson, Robert H.
PATENT ASSIGNEE(S): Imperial Chemical Industries Ltd.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2612501		19520930	US 1948-53600	19481008

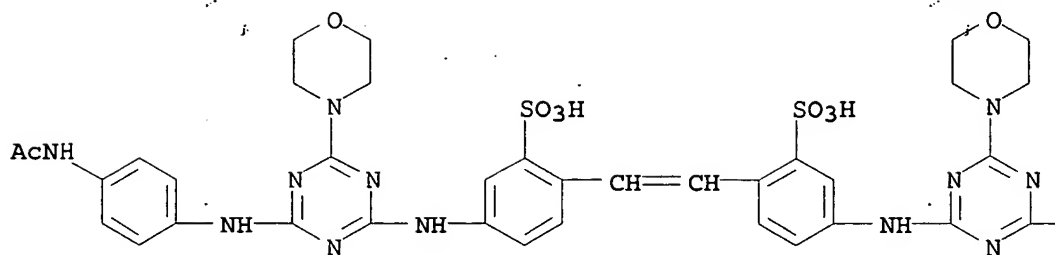
AB An improved fluorescing agent for textiles in ultraviolet light comprises a 4,4'-bis(triazinylamino)-2,2'-stilbenedisulfonic acid compd. contg. dimethylamine or morpholino groups attached to the triazine nuclei. Thus, the intermediate di-Na 4,4'-bis(2,4-dichloro-1,3,5-triazin-6-ylamino)-2,2'-stilbenedisulfonic acid (I) is made by adding NaOH 8 to 4,4'-diamino-2,2'-stilbenedisulfonic acid (II) 37 parts in 240 parts water. The clear soln. so obtained is added to cyanuric chloride (III) suspension (III 36.8, Me₂CO 92, water 1600 parts) in 30 min. at 20-5° and stirred 2 hrs. during addn. of 80 parts 10% NaOH soln. (final mixt. slightly acid to Congo red paper). To the 71 parts I so prepd. 18.6 parts aniline are added. Following heating at 50° and occasional NaOH addn. until no further acidity develops (Delta test paper), 18 parts Me₂NH are added. The mixt. is heated 5 hrs. at 95-100°. The pale yellow solid, 4,4'-bis(2-dimethylamino-4-anilino-1,3,5-triazin-6-ylamino)-2,2'-stilbenedisulfonic acid is pptd. by addn. of 400 parts NaCl and dried at 60°. Instead of 18.6 parts aniline, 21.4 parts of m-toluidine or 30.0 of p-aminoacetanilide are used in other examples. Similar compds. are also obtained by using morpholine instead of Me₂NH in each case.

IT 776276-57-4, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[4-(p-acetamidoanilino)-6-morpholino-s-triazin-2-ylamino]-860422-79-3, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[4-(p-acetamidoanilino)-6-dimethylamino-s-triazin-2-ylamino]- (prepn. of)

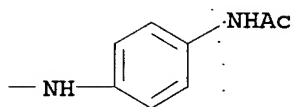
RN 776276-57-4 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[4-(acetylaminophenyl)amino]-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

PAGE 1-A



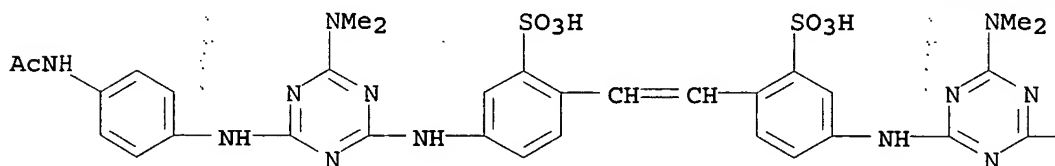
PAGE 1-B



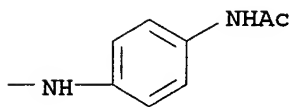
RN 860422-79-3 HCAPLUS

CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[4-(p-acetamidoanilino)-6-dimethylamino-s-triazin-2-ylamino]- (5CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



CC 25 (Dyes and Textiles Chemistry)

IT Bleaching agents

(fluorescent or optical, stilbenedisulfonic acid derivs.)

IT 16013-46-0, 2,2'-Stilbenedisulfonic acid, 4,4'-bis(4,6-dichloro-s-triazin-2-ylamino)- 24231-46-7, 2,2'-Stilbenedisulfonic acid, 4,4'-bis(4-anilino-6-morpholino-s-triazin-2-ylamino)- 776276-57-4, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[4-(p-acetamidoanilino)-6-morpholino-s-triazin-2-ylamino]-

802613-17-8, 2,2'-Stilbenedisulfonic acid, 4,4'-bis(4-anilino-6-dimethylamino-s-triazin-2-ylamino)- 858240-09-2,
2,2'-Stilbenedisulfonic acid, 4,4'-bis(4-dimethylamino-6-m-toluidino-s-triazin-2-ylamino)- 860422-79-3, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[4-(p-acetamidoanilino)-6-dimethylamino-s-triazin-2-ylamino]-
(prepn. of)

L46 ANSWER 32 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1950:23803 HCAPLUS
DOCUMENT NUMBER: 44:23803
ORIGINAL REFERENCE NO.: 44:4686a-e
TITLE: Anthraquinone dyes
INVENTOR(S): v. Allmen, Samuel; Eggenberger, Hans
PATENT ASSIGNEE(S): Sandoz Ltd.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 2480985		19490906	US 1947-759470	194707 07

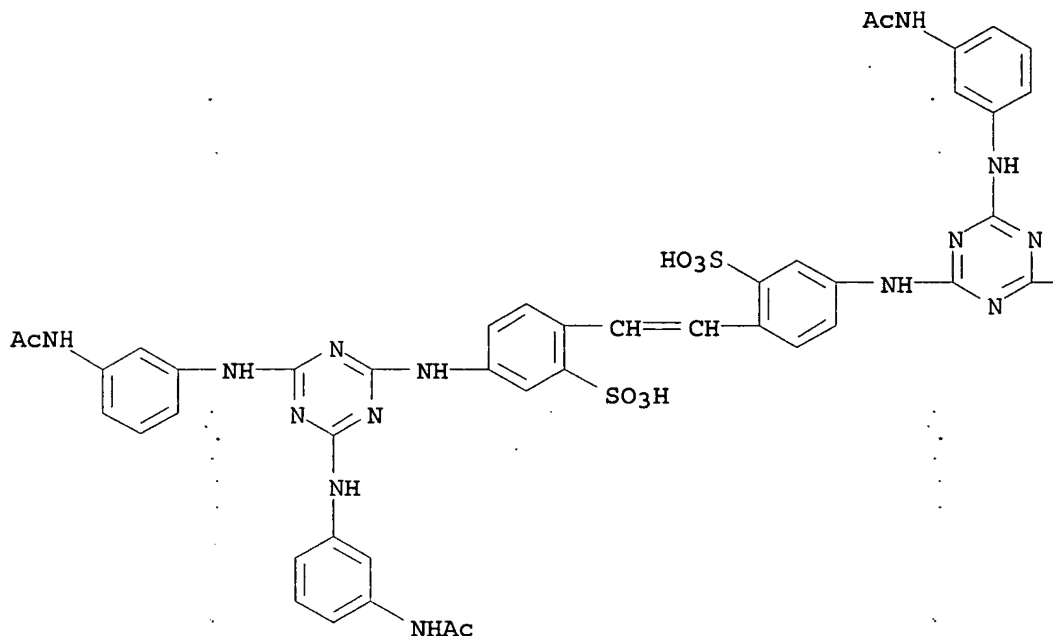
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GI For diagram(s), see printed CA Issue.
AB Anthraquinone dyes (I), in which X is halogen or SO₃H, Y is alkyl, R is H, alkyl, or halogen, and one Z is SO₃H, the others being H, are treated with halogenating agents to produce blue dyes which, on animal fibers and nylon, are fast to light, washing, and milling. Thus a soln. of the Na salt of 1-amino-4-(2,4,6-trimethylanilino)anthraquinone-2,6-disulfonic acid 5.8 in 85% H₂SO₄ 50 is treated with Cl 1.5 parts at 20-30° with agitation. The temp. is then raised to 60-100° for 1 h., after which the mixt. is poured into ice H₂O. The dye seps. as reddish blue needles. To the K salt of 1-amino-4-(2,6-dimethylanilino)anthraquinone-2,6-disulfonic acid 5.8 in 50 parts 90% H₂SO₄ Br 1.8 is added, and the mixt. stirred overnight at 20-30° and then 3 h. at 40°. Red-blue needles ppt. from ice H₂O, dyeing protein fibers in bright blue shades. 1-Amino-4-(2,4,6-trimethylanilino)anthraquinone-2,5-disulfonic acid with Br gives red-blue needles which dye animal fibers in red-blue shades. 1-Amino-2-bromo-4-(2,6-dimethyl-4-chloroanilino)anthraquinone-7-sulfonic acid 5 in fuming H₂SO₄ 25 parts contg. 1-2% SO₃, after addn. of iodine and passage of a slow current of Cl gives a dye which treated with K sulfite under pressure gives a 2,7-disulfonic acid which dyes fabrics in red-blue shades. Halogenated I claimed are 1-amino-4-(3,5-dibromo-2,4,6-trimethylanilido)anthraquinone-2,6-disulfonic acid, the analogous dichloro compd., and 1-amino-4-(dibromo-2,6-diethylanilino)anthraquinone-2,8-disulfonic acid. Cf. C.A. 43, 8164d.

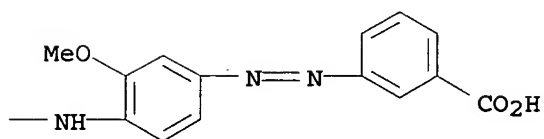
IT 873375-83-8, 2,2'-Stilbenedisulfonic acid,
4-[4-(m-acetamidoanilino)-6-[4-(m-carboxyphenylazo)-o-anisidino]-s-triazin-2-ylamino]-4'-[4,6-bis(m-acetamidoanilino)-s-triazin-2-ylamino]-
(prepn. of)
RN 873375-83-8 HCAPLUS

CN 2,2'-Stilbenedisulfonic acid, 4-[4-(m-acetamidoanilino)-6-[4-(m-carboxyphenylazo)-o-anisidino]-s-triazin-2-ylamino]-4'-[4,6-bis(m-acetamidoanilino)-s-triazin-2-ylamino]- (5CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



CC 25 (Dyes and Textiles Chemistry)
 IT 69272-00-0, 2,6-Anthraquinonedisulfonic acid, 1-amino-4-(2,4,6-trimethylanilino)- 737791-27-4, 1,6-Anthraquinonedisulfonic acid, 5-amino-8-(2,4,6-trimethylanilino)- 738583-79-4, 2,6-Anthraquinonedisulfonic acid, 1-amino-4-(2,6-xylidino)- 873375-83-8, 2,2'-Stilbenedisulfonic acid, 4-[4-(m-acetamidoanilino)-6-[4-(m-carboxyphenylazo)-o-anisidino]-s-triazin-2-ylamino]-4'-[4,6-bis(m-acetamidoanilino)-s-triazin-2-ylamino]- 875840-34-9, 2,6-Anthraquinonedisulfonic acid, 1-amino-4-(3,5-dichloro-2,4,6-trimethylanilino)- 875840-42-9, 2,6-Anthraquinonedisulfonic acid, 1-amino-4-(3,5-dibromo-2,4,6-trimethylanilino)- 875841-82-0, 2-Anthraquinonesulfonic acid,

8-amino-7-bromo-5-(4-chloro-2,6-xylylidino)-
(prepn. of)

=> d 140 ibib abs hitstr hitind 1-26

L40 ANSWER 1 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:673380 HCAPLUS

DOCUMENT NUMBER: 143:155171

TITLE: Triazinylaminostilbene disulphonic acid
mixtures for use as a
fluorescent whitening agent
for paper

INVENTOR(S): Cuesta, Fabienne; Deisenroth, Ted; Rohringer,
Peter

PATENT ASSIGNEE(S): Ciba Specialty Chemicals Holding Inc., Switz.

SOURCE: PCT Int. Appl., 25 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005068597	A1	20050728	WO 2005-EP50070	20050110
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
PRIORITY APPLN. INFO.: EP 2004-100158				A
				20040120

OTHER SOURCE(S): MARPAT 143:155171

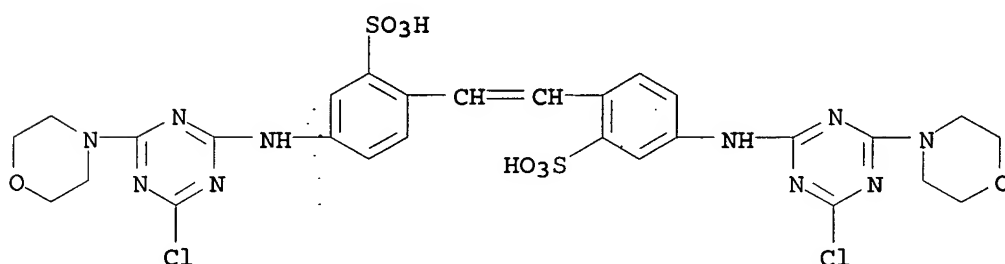
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The present invention relates to a fluorescent whitening agent comprising a mixt. of two sym. and one asym. substituted triazinylaminostilbene disulfonic acids, certain novel derivs., a process for their prepn. and use of the mixt. for whitening synthetic or natural org. materials, esp. paper and for the fluorescent whitening and improvement of sun protection factors of

textile materials. Thus, a paper coating with excellent whitening effects was prepd. by mixing fluorescent whitening agent mixts. of I, II, and III, calcium carbonate clay, polyvinyl alc., and SBR binder.

- IT 28950-66-5P, 4,4'-Bis[(4-morpholino-6-chloro-1,3,5-triazin-2-yl)amino]stilbene-2,2'-disulfonic acid disodium salt
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (intermediate; prepn. of triazinylaminostilbene disulfonic acid mixts. for fluorescent paper whitening agent)
- RN 28950-66-5 HCAPLUS
- CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



● 2 Na

- IC ICM C11D003-42
 ICS D21H021-30; D06L003-12; C07D251-68
- CC 43-7 (Cellulose, Lignin, Paper, and Other Wood Products)
 Section cross-reference(s): 40, 41
- ST triazinylaminostilbene disulfonic acid fluorescence paper whitening agent paper
- IT Clays, uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (paper coating-contg.; prepn. of triazinylaminostilbene disulfonic acid mixts. for fluorescent paper whitening agent)
- IT Styrene-butadiene rubber, uses
 RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
 (paper coating-contg.; prepn. of triazinylaminostilbene disulfonic acid mixts. for fluorescent paper whitening agent)
- IT Coating materials
 Fluorescent brighteners
 Fluorescent pigments
 Paper
 Textiles
 (prepn. of triazinylaminostilbene disulfonic acid mixts. for fluorescent paper whitening agent)
- IT 28950-66-5P, 4,4'-Bis[(4-morpholino-6-chloro-1,3,5-triazin-2-yl)amino]stilbene-2,2'-disulfonic acid disodium salt
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP

(Preparation); RACT (Reactant or reagent)
(intermediate; prepn. of triazinylaminostilbene disulfonic acid
mixts. for fluorescent paper whitening
agent)

IT 471-34-1, Carbonic acid calcium salt (1:1), uses 9002-89-5

RL: MOA (Modifier or additive use); USES (Uses)
(paper coating-contg.; prepn. of triazinylaminostilbene
disulfonic acid mixts. for fluorescent paper
whitening agent)

IT 28950-65-4P 29641-34-7P 586962-96-1P 586963-05-5P
852394-70-8P 859699-88-0P 859699-90-4P 859699-92-6P
859699-95-9P 859699-97-1P 859699-99-3P 859700-01-9P
859700-03-1P 859700-06-4P 859700-09-7P 859700-11-1P
859700-13-3P 859700-15-5P 859700-17-7P 859700-19-9P
859700-22-4P 859700-25-7P 859700-27-9P

RL: IMF (Industrial manufacture); PREP (Preparation)
(prepn. of triazinylaminostilbene disulfonic acid mixts
for fluorescent paper whitening agent)

IT 56-84-8, Aspartic acid, reactions 108-77-0 110-91-8, Morpholine,
reactions 111-42-2, reactions 7336-20-1

RL: RCT (Reactant); RACT (Reactant or reagent)
(starting material; prepn. of triazinylaminostilbene disulfonic
acid mixts. for fluorescent paper
whitening agent)

IT 9003-55-8

RL: POF (Polymer in formulation); TEM (Technical or engineered
material use); USES (Uses)
(styrene-butadiene rubber, paper coating-contg.; prepn. of
triazinylaminostilbene disulfonic acid mixts. for
fluorescent paper whitening agent)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN
THE RE FORMAT

L40 ANSWER 2 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:823991 HCAPLUS

DOCUMENT NUMBER: 141:316284

TITLE: Detergent compositions containing
fluorescent whitening agents

INVENTOR(S): Kaschig, Juergen; Hochberg, Robert; Becherer,
Oliver; Merkle, Gerhard; Schaumann, Monika;
Schultz, Bernard

PATENT ASSIGNEE(S): Ciba Specialty Chemicals Holding Inc., Switz.

SOURCE: PCT Int. Appl., 67 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004085594	A1	20041007	WO 2004-EP50307	20040315

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CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP,
KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,

MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD,
 SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ,
 VC, VN, YU, ZA, ZM, ZW
 RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
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 DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT,
 RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,
 ML, MR, NE, SN, TD, TG

AU 2004224146 A1 20041007 AU 2004-224146

200403
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EP 1606380 A1 20051221 EP 2004-720626

200403
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R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,
 PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU,
 PL, SK

BR 2004008685 A 20060328 BR 2004-8685

200403
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CN 1764714 A 20060426 CN 2004-80007851

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US 2006166850 A1 20060727 US 2006-548359

200603
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PRIORITY APPLN. INFO.:

EP 2003-100741

A

200303
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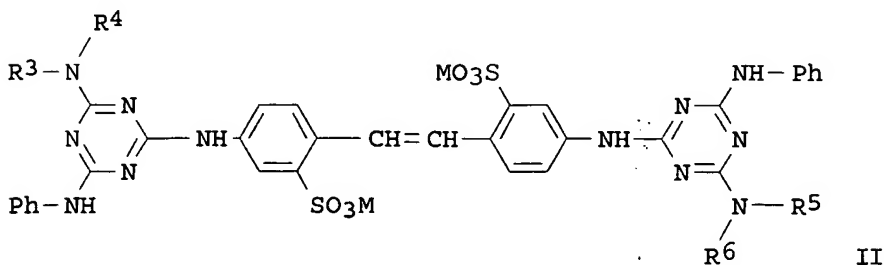
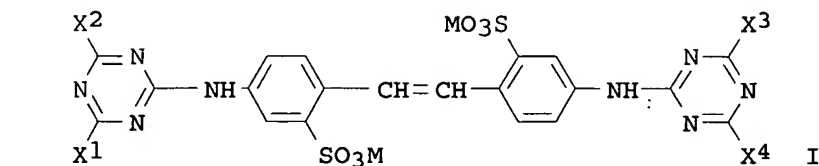
WO 2004-EP50307

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200403
15

OTHER SOURCE(S):
GI

MARPAT 141:316284



AB A detergent compn. comprising fluorescent

MEI HUANG EIC1700 REM4B28 571-272-3952

08/17/2006

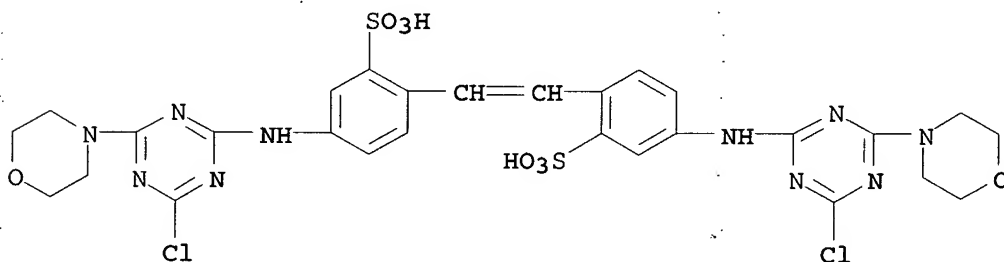
whitening agents, comprises at least one compd. of formula I, (wherein X1, X2, X3 and X4 are -N(R1)R2, wherein R1 and R2 are independently from each other hydrogen, cyano, Me, substituted Me, CH2CH2OH or C5-C7 cycloalkyl, or R1 and R2, together with the nitrogen atom linking them, form a heterocyclic ring; and M is hydrogen or a cation) together with at least one compd. of formula II (wherein R3 and R5, independently from each other, are hydrogen, unsubstituted C1-C8 alkyl or substituted C1-C8 alkyl; R4 and R6, independently from each other, are hydrogen, unsubstituted Ph, unsubstituted C1-C8 alkyl or substituted C1-C8 alkyl, or NR3R4 and/or NR5R6 form an unsubstituted or substituted morpholino ring; and M is hydrogen or a cation).

IT 28950-66-5 52205-59-1

RL: RCT (Reactant); RACT (Reactant or reagent)
(detergent compns. contg. fluorescent
whitening agents)

RN 28950-66-5 HCAPLUS

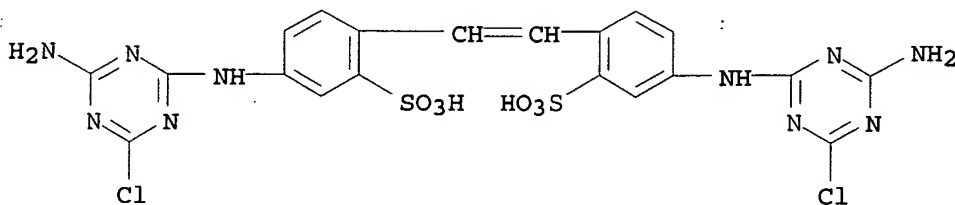
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



● 2 Na

RN 52205-59-1 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-amino-6-chloro-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



● 2 Na

IC ICM C11D003-42

CC 46-5 (Surface Active Agents and Detergents)

ST fluorescent whitening agent sodium
bistriazinylstilbene disulfonate

IT Detergents
(bleaching; detergent compns. contg.
fluorescent whitening agents)

IT Fluorescent brighteners
(laundry detergent compns. contg.)

IT Detergents
(laundry, enzyme-contg.; detergent compns. contg.
fluorescent whitening agents)

IT Enzymes, biological studies
RL: BUU (Biological use, unclassified); BIOL (Biological study);
USES (Uses)
(protein-degrading; detergent compns. contg.
fluorescent whitening agents)

IT 9000-92-4, Amylase 9001-62-1, Lipase 9001-92-7, Protease
9012-54-8, Cellulase
RL: BUU (Biological use, unclassified); BIOL (Biological study);
USES (Uses)
(detergent compns. contg. fluorescent
whitening agents)

IT 74-89-5, Methylamine, reactions 108-77-0, Cyanuric chloride
109-83-1, Methylethanolamine 141-43-5, Ethanolamine, reactions
7336-20-1 28950-66-5 52205-59-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(detergent compns. contg. fluorescent
whitening agents)

IT 586962-96-1P
RL: SPN (Synthetic preparation); PREP (Preparation)
(detergent compns. contg. fluorescent
whitening agents)

IT 3654-77-1P 586962-99-4P 768395-11-5P
RL: SPN (Synthetic preparation); TEM (Technical or engineered
material use); PREP (Preparation); USES (Uses)
(detergent compns. contg. fluorescent
whitening agents)

IT 133-66-4 4193-55-9 13863-31-5 16090-02-1 31900-04-6
RL: TEM (Technical or engineered material use); USES (Uses)
(detergent compns. contg. fluorescent
whitening agents)

REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L40 ANSWER 3 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:453320 HCAPLUS
DOCUMENT NUMBER: 141:25251
TITLE: Amphoteric fluorescent
whitening agents for paper
INVENTOR(S): Scheffler, Goetz; Rohringer, Peter; Fletcher,
Ian John
PATENT ASSIGNEE(S): Ciba Specialty Chemicals Holdings Inc., Switz.
SOURCE: PCT Int. Appl., 74 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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MEI HUANG EIC1700 REM4B28 571-272-3952

08/17/2006

WO 2004046293 A2 20040603 WO 2003-EP12583 200311
11

WO 2004046293 C1 20040826
WO 2004046293 A3 20041014

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA,
CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP,
KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE,
SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC,
VN, YU, ZA, ZM, ZW

RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE,
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SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML,
MR, NE, SN, TD, TG

CA 2504256 AA 20040603 CA 2003-2504256 200311
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AU 2003288033 A1 20040615 AU 2003-288033 200311
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EP 1563049 A2 20050817 EP 2003-779887 200311
11

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,
PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU,
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CN 1711348 A 20051221 CN 2003-80103529 200311
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BR 2003016400 A 20060221 BR 2003-16400 200311
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JP 2006506492 T2 20060223 JP 2004-552569 200311
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EP 1674616 A2 20060628 EP 2006-111552 200311
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PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, SK

US 2006155124 A1 20060713 US 2005-534315 200505
09

PRIORITY APPLN. INFO.: EP 2002-405998 A 200211
19

EP 2003-779887 A3 200311
11

WO 2003-EP12583 W 200311
11

OTHER SOURCE(S): MARPAT 141:25251
GI

MEI HUANG EIC1700 REM4B28 571-272-3952

08/17/2006

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

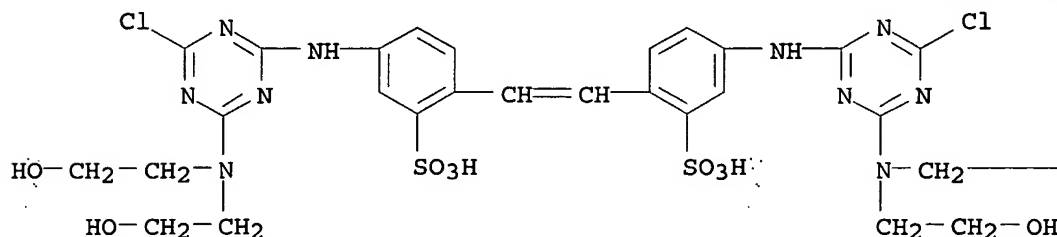
AB Novel bis-triazinylaminostilbene amphoteric fluorescent whitening agents, comprising both individual components and mixts. thereof, are used as fluorescent whitening agents for the fluorescent whitening of paper. Thus, a fluorescent whitening agent comprises a mixt. of compds. of the formula I, II and III in which A* represents a group of the formula IV, wherein A represents -X-Y-NR₃R₄ and C is -NR₁R₂ and B* represents a group of the formula V, VI and VII wherein D represents -NR₅R₆ and E represents -X₁-Y₁-NR₇R₈, whereby X and X₁ each, independently of each other, represent -O- or -NH-, Y and Y₁ each, independently of each other, represent a straight-chain C₂-C₈ alkylene or branched C₃-C₈ alkylene chain, which may be interrupted by one or two nitrogen, oxygen or sulfur atoms or represent a 5- or 6-membered cycloaliph. ring, R₁, R₂, R₅ and R₆ each independently of each other, represent hydrogen, C₁-C₈ alkyl, C₂-C₄ hydroxyalkyl, C₁-C₄ alkoxy C₁-C₄ alkyl, Ph, which is unsubstituted or substituted by halogen, C₁-C₄ alkoxy, C₁-C₄ alkyl or sulfonamido, or R₁ and R₂ and /or R₅ and R₆, together with the nitrogen atom to which they are attached, complete a morpholino- piperidino- or pyrrolidino-ring, R₃, R₄, R₇ and R₈, each independently of each other, represent hydrogen, C₁-C₄ alkyl, C₂-C₄ hydroxyalkyl or R₃ and R₄ and/or R₇ and R₈, together with the nitrogen atom to which they are attached, complete a morpholino-, piperidino- or pyrrolidino-ring and M represents hydrogen, an alk. or alk. earth metal, ammonium or alkylammonium. A process for their prepn. and intermediates useful for their prepn. are discussed.

IT 4028-32-4 13281-93-1 37138-23-1
52205-59-1 52576-51-9 213910-64-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(amphoteric fluorescent whitening agents for paper)

RN 4028-32-4 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[bis(2-hydroxyethyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



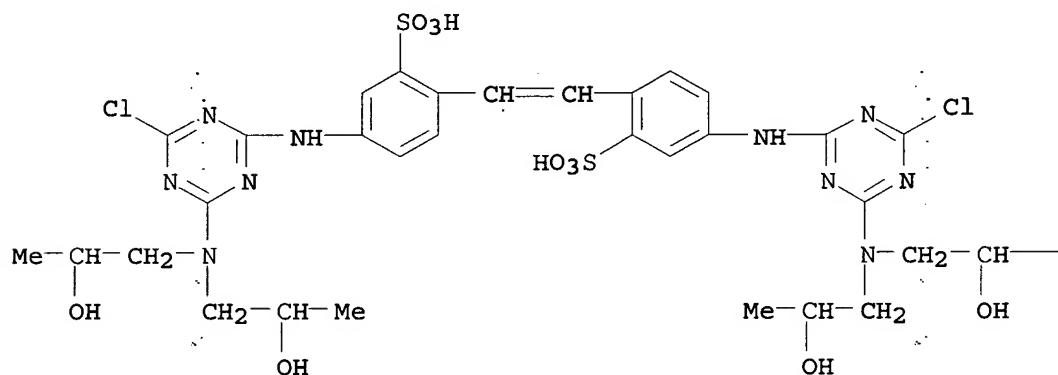
● 2 Na

PAGE 1-B

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RN 13281-93-1 HCAPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[bis(2-hydroxypropyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A

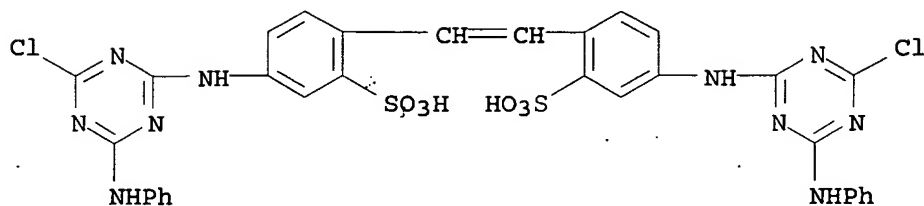


● 2 Na

PAGE 1-B

—Me

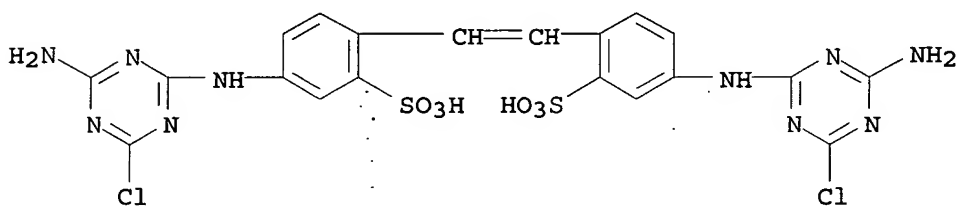
RN 37138-23-1 HCAPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



● 2 Na

RN 52205-59-1 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[(4-amino-6-chloro-1,3,5-triazin-2-yl)amino]-, disodium salt (9CI) (CA INDEX NAME)

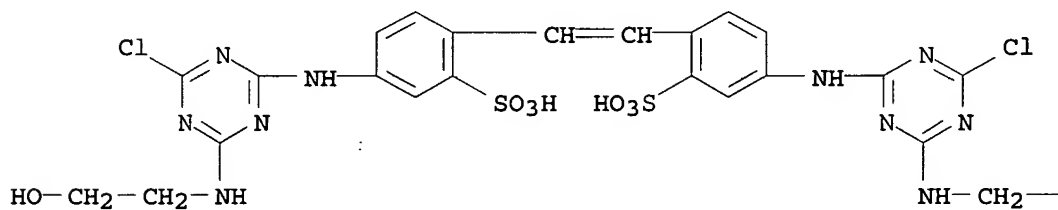


● 2 Na

RN 52576-51-9 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-[(2-hydroxyethyl)amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



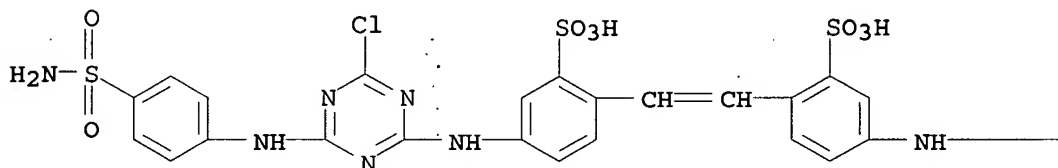
● 2 Na

PAGE 1-B

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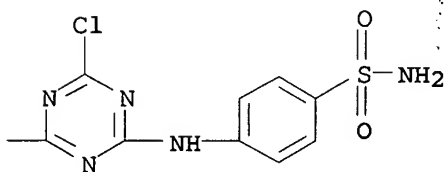
RN 213910-64-6 HCAPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[4-(aminosulfonyl)phenyl]amino]-6-chloro-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



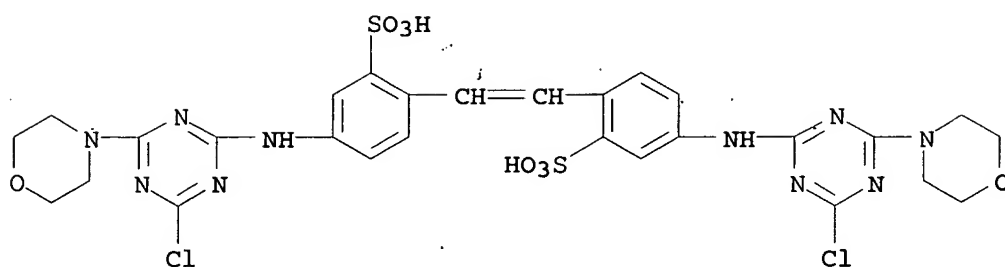
●2 Na

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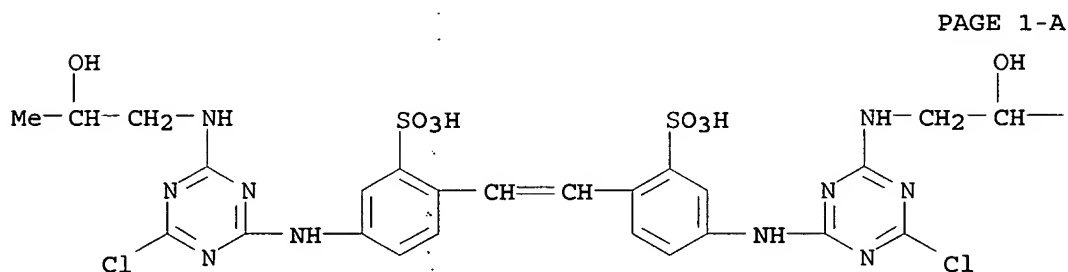
IT 28950-66-5P 602304-27-8P 697768-38-0P
 697768-42-6P 697768-49-3P 697768-51-7P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
 RACT (Reactant or reagent)
 (amphoteric fluorescent whitening agents for
 paper)

RN 28950-66-5 HCAPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



● 2 Na

RN 602304-27-8 HCAPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-[(2-hydroxypropyl)amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI)
 (CA INDEX NAME)



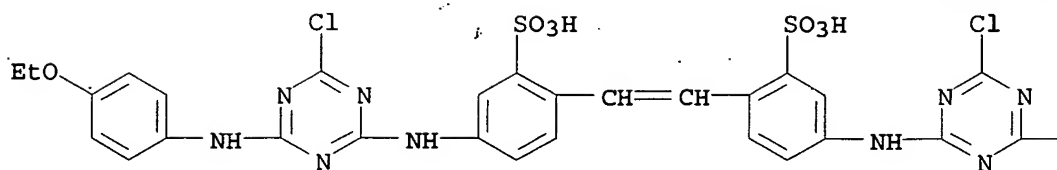
● 2 Na

PAGE 1-B

— Me

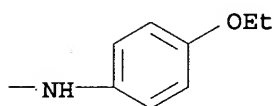
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 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-[(4-ethoxyphenyl)amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI)
 (CA INDEX NAME)

PAGE 1-A



● 2 Na

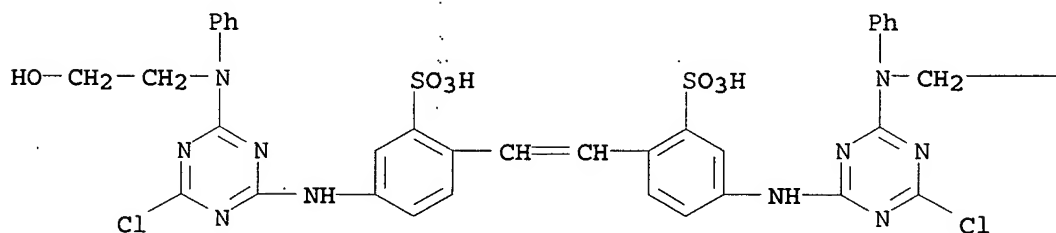
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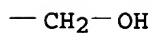
RN 697768-42-6 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-[(2-hydroxyethyl)phenylamino]-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

PAGE 1-A



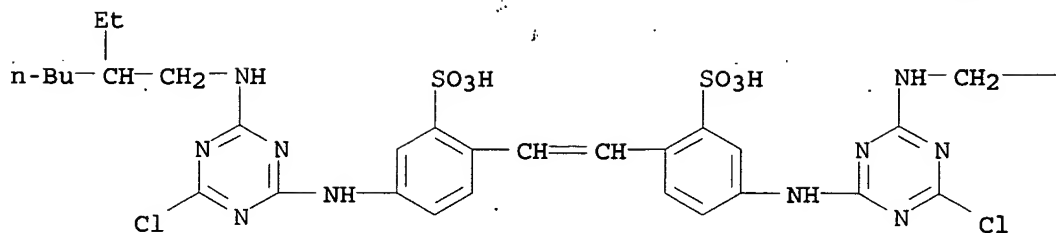
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RN 697768-49-3 HCAPLUS

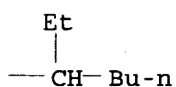
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-[(2-ethylhexyl)amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A

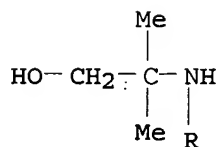
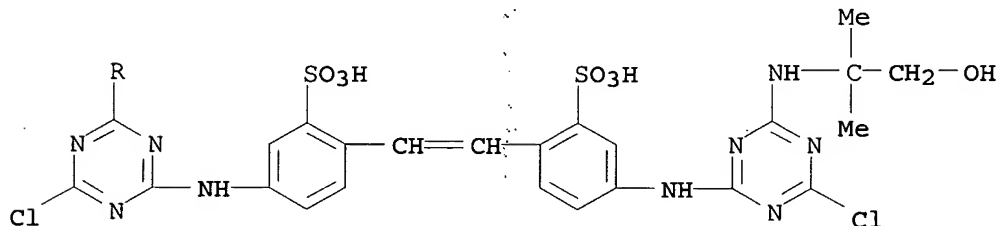


● 2 Na

PAGE 1-B



RN 697768-51-7 HCAPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-[(2-hydroxy-1,1-dimethylethyl)amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



● 2 Na

IT 697768-04-0P 697768-06-2P 697768-09-5P
 697768-20-0P 697768-22-2P 697768-33-5P
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RL: SPN (Synthetic preparation); PREP (Preparation)
 (amphoteric fluorescent whitening agents for paper)

RN 697768-04-0 HCAPLUS

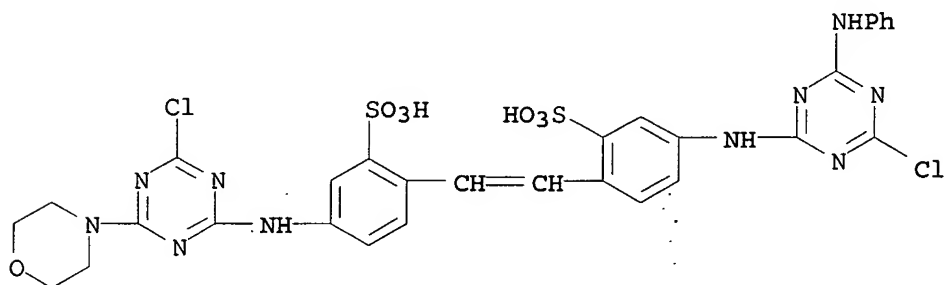
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(4-

morpholinyl)-1,3,5-triazin-2-yl]amino]-, disodium salt, mixt. with
 5-[[4-chloro-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino]-2-[2-[4-[4-
 chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-2-
 sulfophenyl]ethenyl]benzenesulfonic acid disodium salt and
 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-
 2-yl]amino]benzenesulfonic acid] disodium salt (9CI) (CA INDEX
 NAME)

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CRN 602304-28-9

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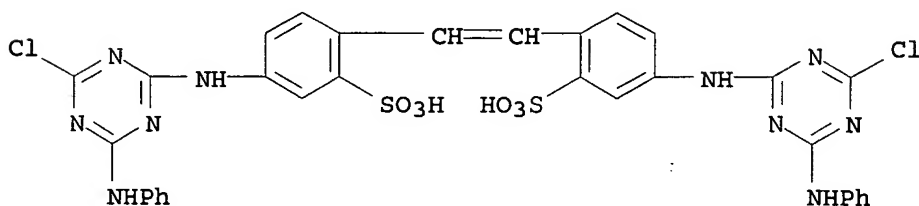


● 2 Na

CM 2

CRN 37138-23-1

CMF C32 H24 Cl2 N10 O6 S2 . 2 Na

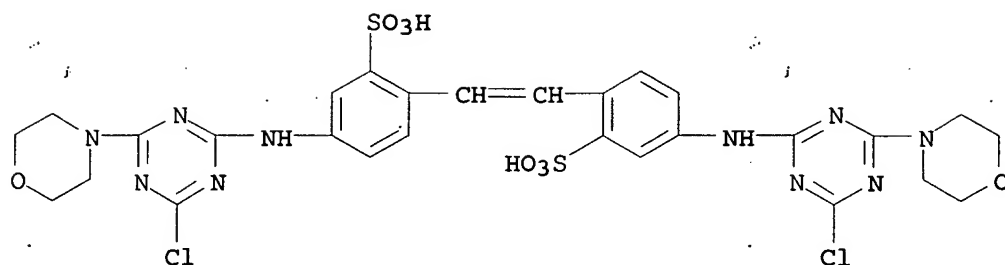


● 2 Na

CM 3

CRN 28950-66-5

CMF C28 H28 Cl2 N10 O8 S2 . 2 Na



●2 Na

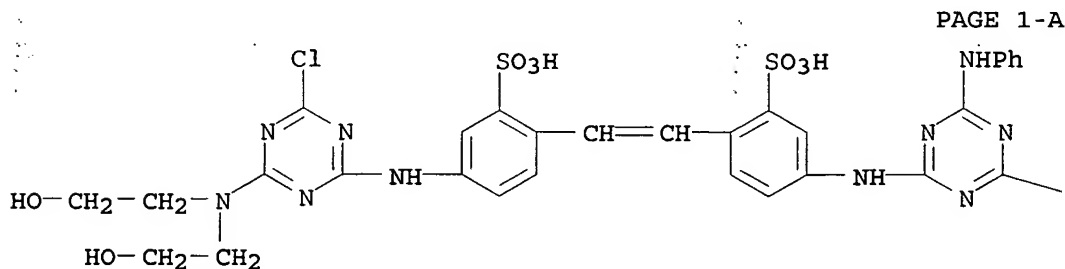
RN 697768-06-2 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[bis(2-hydroxyethyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]-, disodium salt, mixt. with 5-[[4-[bis(2-hydroxyethyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]-2-[2-[4-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-2-sulfophenyl]ethenyl]benzenesulfonic acid disodium salt and 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]benzenesulfonic acid] disodium salt (9CI) (CA INDEX NAME)

CM 1

CRN 697768-05-1

CMF C30 H28 Cl2 N10 O8 S2 . 2 Na



●2 Na

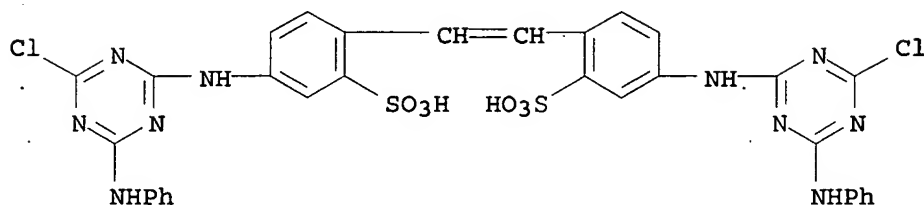
PAGE 1-B

Cl

CM 2

CRN 37138-23-1

CMF C32 H24 Cl2 N10 O6 S2 . 2 Na

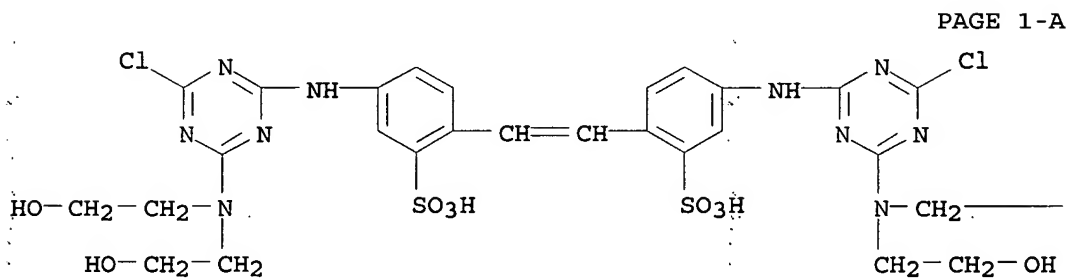


● 2 Na

CM 3

CRN 4028-32-4

CMF C28 H32 Cl2 N10 O10 S2 . 2 Na



PAGE 1-A

● 2 Na

PAGE 1-B

—CH2—OH

RN 697768-09-5 HCAPLUS

CM Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[(4-amino-6-chloro-1,3,5-triazin-2-yl)amino]-, disodium salt, mixt. with 5-[(4-amino-6-chloro-1,3,5-triazin-2-yl)amino]-2-[2-[4-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-2-sulfophenyl]ethenyl]benzenesulfonic acid disodium salt and

MEI HUANG EIC1700 REM4B28 571-272-3952

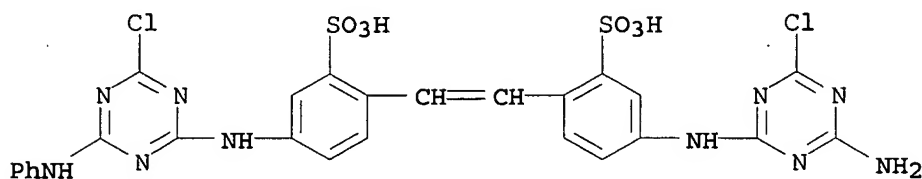
08/17/2006

2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]benzenesulfonic acid] disodium salt (9CI) (CA INDEX NAME)

CM 1

CRN 697768-08-4

CMF C26 H20 Cl2 N10 O6 S2 . 2 Na

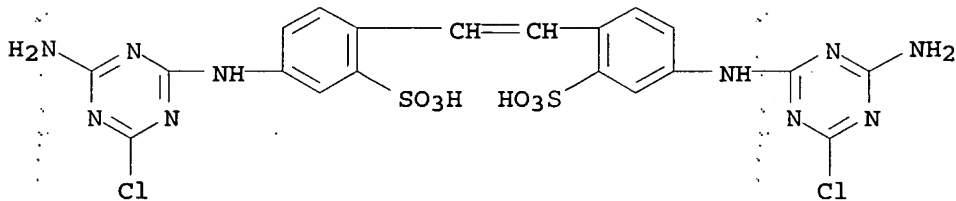


● 2 Na

CM 2

CRN 52205-59-1

CMF C20 H16 Cl2 N10 O6 S2 . 2 Na

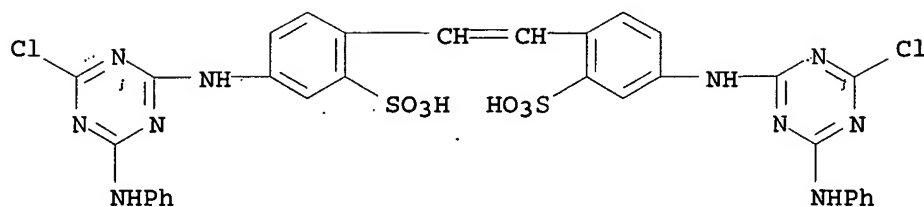


● 2 Na

CM 3

CRN 37138-23-1

CMF C32 H24 Cl2 N10 O6 S2 . 2 Na



● 2 Na

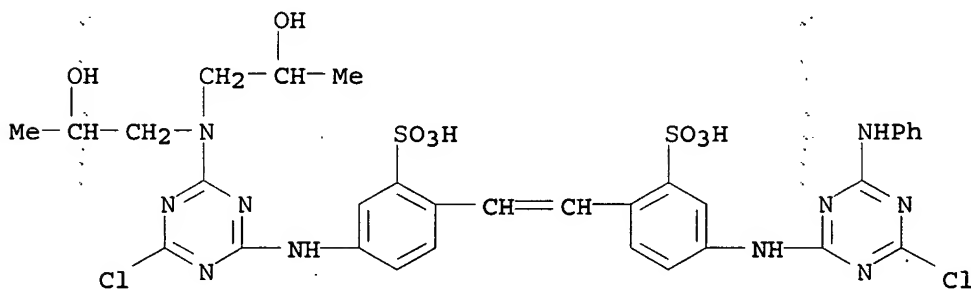
RN 697768-20-0 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[bis(2-hydroxypropyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]-, disodium salt, compd. with 5-[[4-[bis(2-hydroxypropyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]-2-[2-[4-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-2-sulfonylphenyl]ethenyl]benzenesulfonic acid disodium salt and 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]benzenesulfonic acid] disodium salt (9CI) (CA INDEX NAME)

CM 1

CRN 697768-19-7

CMF C32 H32 Cl2 N10 O8 S2 . 2 Na

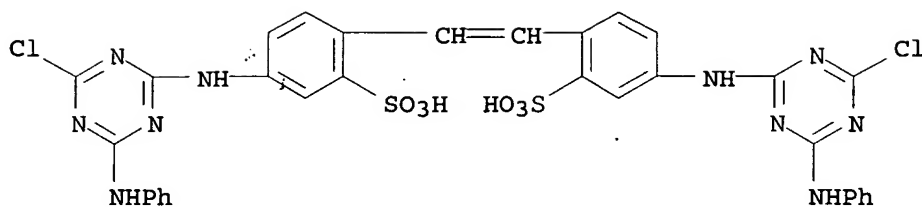


● 2 Na

CM 2

CRN 37138-23-1

CMF C32 H24 Cl2 N10 O6 S2 . 2 Na



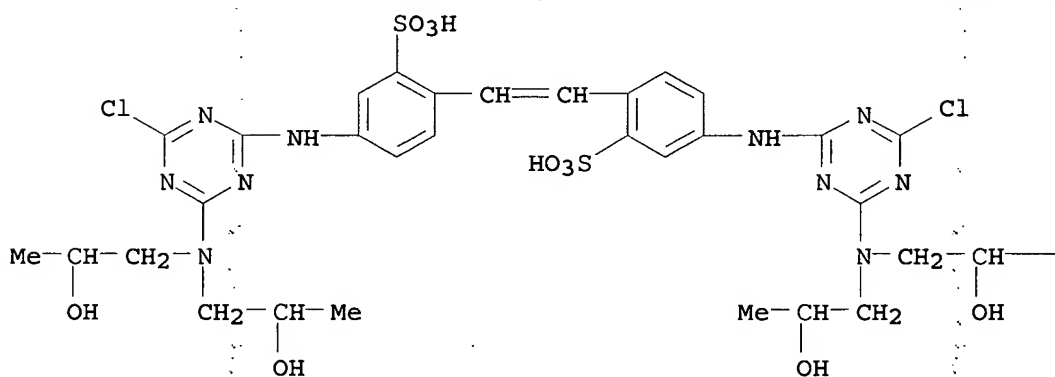
● 2 Na

CM 3

CRN 13281-93-1

CMF C32 H40 Cl2 N10 O10 S2 . 2 Na

PAGE 1-A



● 2 Na

PAGE 1-B

— Me

RN 697768-22-2 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-[(2-

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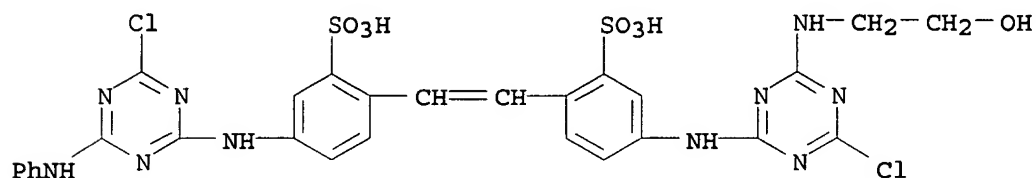
08/17/2006

hydroxyethyl)amino]-1,3,5-triazin-2-yl]amino]-, disodium salt, mixt.
with 5-[[4-chloro-6-[(2-hydroxyethyl)amino]-1,3,5-triazin-2-yl]amino]-2-[2-[4-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-2-sulfophenyl]ethenyl]benzenesulfonic acid disodium salt
and 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]benzenesulfonic acid] disodium salt (9CI) (CA INDEX NAME)

CM 1

CRN 697768-21-1

CMF C28 H24 Cl2 N10 O7 S2 . 2 Na

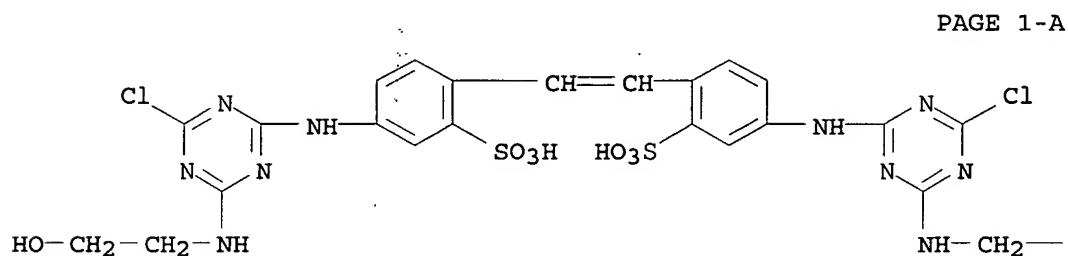


● 2 Na

CM 2

CRN 52576-51-9

CMF C24 H24 Cl2 N10 O8 S2 . 2 Na



● 2 Na

PAGE 1-A

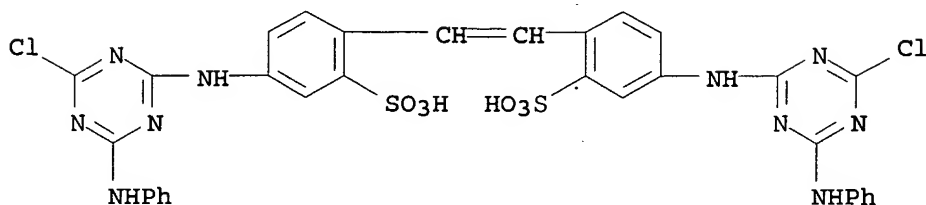
PAGE 1-B

—CH2—OH

CM 3

CRN 37138-23-1

CMF C32 H24 Cl2 N10 O6 S2 . 2 Na



● 2 Na

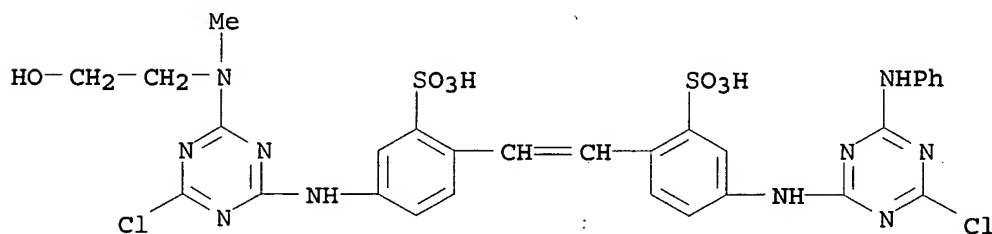
RN 697768-33-5 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-[(2-hydroxyethyl)methylamino]-1,3,5-triazin-2-yl]amino]-, disodium salt, mixt. with 5-[[4-chloro-6-[(2-hydroxyethyl)methylamino]-1,3,5-triazin-2-yl]amino]-2-[2-[4-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-2-sulfophenyl]ethenyl]benzenesulfonic acid disodium salt and 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]benzenesulfonic acid] disodium salt (9CI) (CA INDEX NAME)

CM 1

CRN 697768-32-4

CMF C29 H26 Cl2 N10 O7 S2 . 2 Na

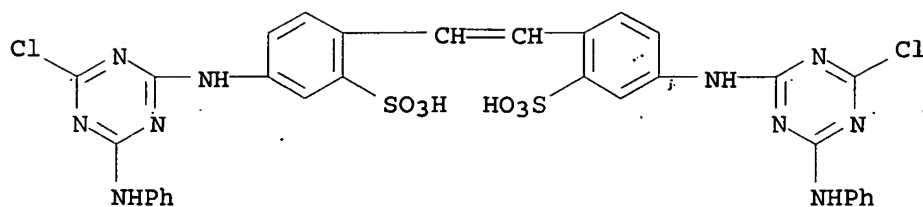


● 2 Na

CM 2

CRN 37138-23-1

CMF C32 H24 Cl2 N10 O6 S2 . 2 Na



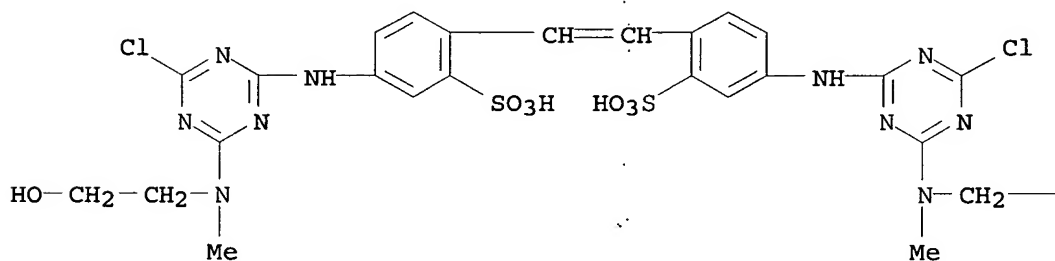
● 2 Na

CM 3

CRN 25790-73-2

CMF C26 H28 Cl2 N10 O8 S2 . 2 Na

PAGE 1-A



● 2 Na

PAGE 1-B

—CH₂—OH

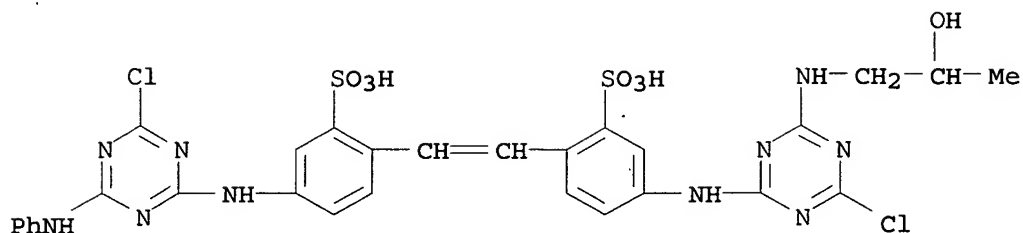
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CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-[(2-hydroxypropyl)amino]-1,3,5-triazin-2-yl]amino]-, disodium salt, mixt. with 5-[[4-chloro-6-[(2-hydroxypropyl)amino]-1,3,5-triazin-2-yl]amino]-2-[2-[4-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-2-sulfohenyl]ethenyl]benzenesulfonic acid disodium salt and 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]benzenesulfonic acid] disodium salt (9CI) (CA INDEX NAME)

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CRN 602304-31-4

CMF C29 H26 Cl2 N10 O7 S2 . 2 Na

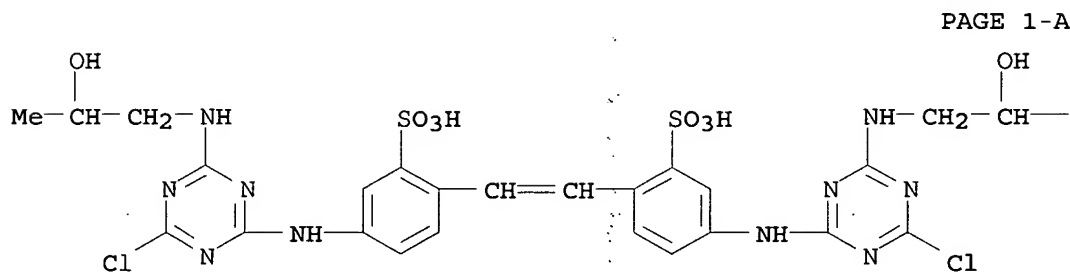


● 2 Na

CM 2

CRN 602304-27-8

CMF C26 H28 Cl2 N10 O8 S2 . 2 Na



PAGE 1-A

● 2 Na

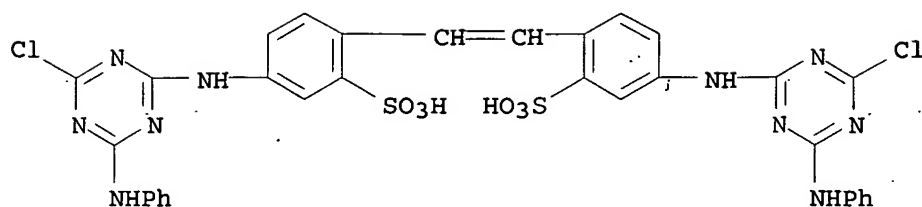
PAGE 1-B

— Me

CM 3

CRN 37138-23-1

CMF C32 H24 Cl2 N10 O6 S2 . 2 Na



● 2 Na

IC ICM C11D003-42
 CC 43-7 (Cellulose, Lignin, Paper, and Other Wood Products)
 ST bistriazinylaminostilbene amphoteric fluorescent
 whitening agent paper
 IT Fluorescent brighteners
 Paper
 (amphoteric fluorescent whitening agents for
 paper)
 IT Whitening agents
 (fluorescent whitening; amphoteric
 fluorescent whitening agents for paper)
 IT 78-90-0, 1,2-Propylene diamine 78-96-6, 1-Aminopropan-2-ol
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 109-76-2, 1,3-Diaminopropane 109-83-1, 2-N-Methylaminoethanol
 110-91-8, Morpholine, reactions 111-40-0, Diethylene triamine
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 4028-32-4 4461-39-6, 2-(3-Aminopropylamino) ethanol
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 697768-42-6P 697768-49-3P 697768-51-7P
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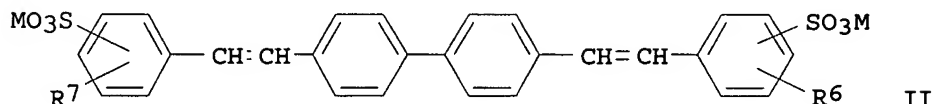
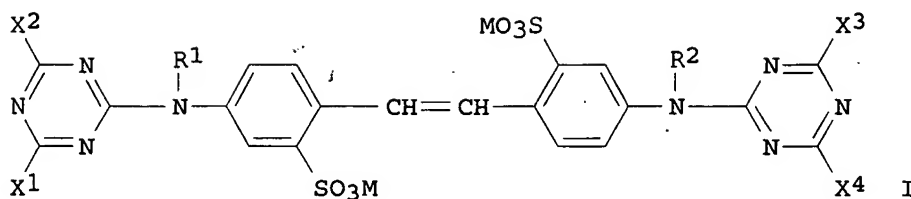
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 RL: SPN (Synthetic preparation); TEM (Technical or engineered
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 (amphoteric fluorescent whitening agents for
 paper)

L40 ANSWER 4 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:678928 HCAPLUS
 DOCUMENT NUMBER: 139:216187
 TITLE: Process for the treatment of textile fiber
 materials with **fluorescent
 brighteners**
 INVENTOR(S): Kaschig, Juergen; Hochberg, Robert; Becherer,
 Oliver; Metzger, Georges; Eckhardt, Claude
 PATENT ASSIGNEE(S): Ciba Specialty Chemicals Holding Inc., Switz.
 SOURCE: PCT Int. Appl., 42 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

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GI



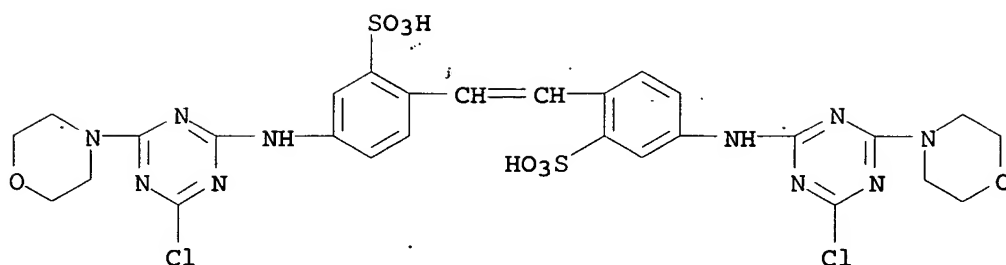
AB Laundry detergent compn. comprises (i) 1-70% of an anionic surfactant and/or a nonionic surfactant; (ii) 0-75% of a builder; (iii) 0-30% of a peroxide; (iv) 0-10% of a peroxide activator; and (v) 0.001-5% of a mixt. of compds. of formulas I and II of improved whitening property. Wherein a fluorescent whitening agent is of formula I, in which R1 and R2 are, independently of each other, hydrogen or unsubstituted or substituted C1-C8alkyl, X1, X2, X3 and X4 are, independently of each other, -N(R3)R4 or -OR5, wherein R3 and R4 are hydrogen, cyano, unsubstituted or substituted C1-C8alkyl or C5-C7cycloalkyl, or R3 and R4, together with the nitrogen atom linking them, form a heterocyclic ring, and R5 is unsubstituted or substituted C1-C8alkyl, and M is hydrogen or a cation. Wherein a fluorescent whitening agent is of formula I, in which R6 and R7, independently of each other, are hydrogen, C1-C8alkyl, C1-C8alkoxy or halogen, and M is as defined above under formula I. The textile fiber materials are treated with 0.05 to 3.0% by wt., based on the wt. of the textile fiber material, of the compd. of formula I, for enhanced whiteness.

IT 28950-66-5 52205-59-1

RL: RCT (Reactant); RACT (Reactant or reagent)
(laundry detergent contg. fluorescent brighteners)

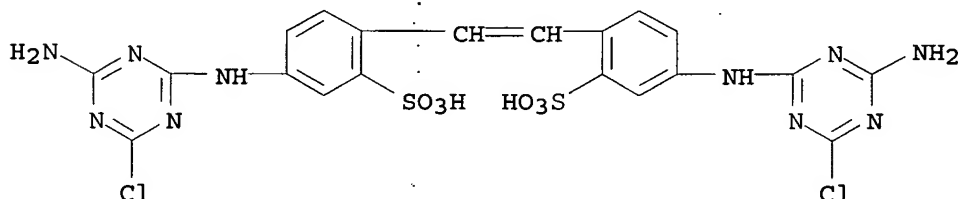
RN 28950-66-5 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



●2 Na

RN 52205-59-1 HCAPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[(4-amino-6-chloro-1,3,5-triazin-2-yl)amino]-, disodium salt (9CI) (CA INDEX NAME)



●2 Na

IC ICM C11D003-42
 ICS C11D003-386
 CC 46-5 (Surface Active Agents and Detergents)
 ST **fluorescent brightener** laundry detergent
 bleaching
 IT Detergents
 (bleaching; laundry detergent contg. **fluorescent brighteners**)
 IT Textiles
 (cotton; laundry detergent contg. **fluorescent brighteners**)
 IT Polyamide fibers, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (fabrics; laundry detergent contg. **fluorescent brighteners**)
 IT **Fluorescent brighteners**
 (laundry detergent contg. **fluorescent brighteners**)
 IT Detergents
 (laundry; laundry detergent contg. **fluorescent brighteners**)
 IT Textiles
 (wool; laundry detergent contg. **fluorescent brighteners**)
 IT 75-04-7, Ethylamine, reactions 108-77-0, Cyanuric chloride

110-73-6, 2-Ethylaminoethanol 110-91-8, Morpholine, reactions
141-43-5, Ethanolamine, reactions 7336-20-1 27076-29-5
28950-66-5 52205-59-1

RL: RCT (Reactant); RACT (Reactant or reagent)
(laundry detergent contg. **fluorescent
brighteners**)

IT 3654-77-1P 586962-95-0P 586962-96-1P
RL: SPN (Synthetic preparation); PREP (Preparation)
(laundry detergent contg. **fluorescent
brighteners**)

IT 5108-90-7P 586962-94-9P
RL: SPN (Synthetic preparation); TEM (Technical or engineered
material use); PREP (Preparation); USES (Uses)
(laundry detergent contg. **fluorescent
brighteners**)

IT 4470-72-8 20182-55-2 25295-51-6 27344-41-8 87777-77-3
457883-29-3 586962-98-3 586962-99-4 586963-00-0 586963-01-1
586963-02-2 586963-03-3 586963-04-4 586963-05-5 586963-06-6
586963-07-7 586963-08-8 586963-09-9 586963-10-2 586963-11-3
RL: TEM (Technical or engineered material use); USES (Uses)
(laundry detergent contg. **fluorescent
brighteners**)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN
THE RE FORMAT

L40 ANSWER 5 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:417933 HCAPLUS

DOCUMENT NUMBER: 139:8132

TITLE: Improvements relating to optical
brighteners useful for paper

INVENTOR(S): Jackson, Andrew Clive

PATENT ASSIGNEE(S): Clariant International Ltd., Switz.

SOURCE: PCT Int. Appl., 37 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

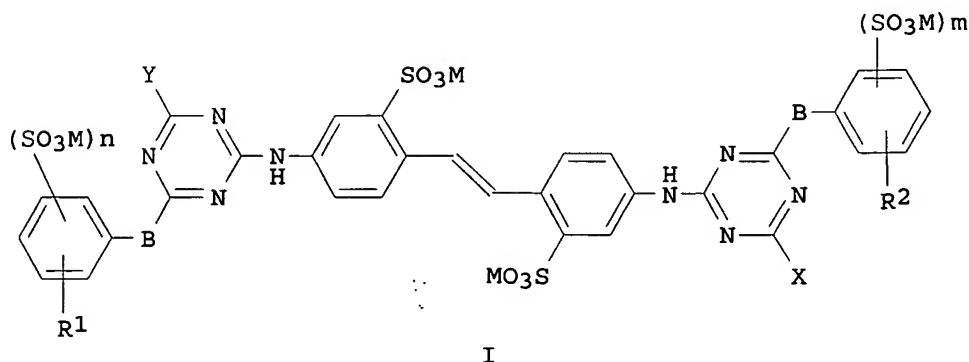
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003044275	A1	20030530	WO 2002-IB4807	20021118
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2456908	AA	20030530	CA 2002-2456908	200211

AU 2002347452	A1	20030610	AU 2002-347452	18
				200211
				18
EP 1448853	A1	20040825	EP 2002-783386	200211
				18
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,				
PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
BR 2002014268	A	20040921	BR 2002-14268	200211
				18
CN 1589352	A	20050302	CN 2002-823096	200211
				18
JP 2005509735	T2	20050414	JP 2003-545885	200211
				18
ZA 2004001324	A	20050310	ZA 2004-1324	200402
				18
US 2005022320	A1	20050203	US 2004-496190	200405
				19
NO 2004002534	A	20040823	NO 2004-2534	200406
				17
PRIORITY APPLN. INFO.:			GB 2001-27903	A
				200111
				21
			WO 2002-IB4807	W
				200211
				18
OTHER SOURCE(S):			MARPAT 139:8132	
GI				



AB The present invention relates to the use of compds. of I [R1, R2 = H, halogen, (substituted) C1-6 alkyl or alkoxy; B = O, NR3; R3 = H, (substituted) C1-4 alkyl; X: halogen preferably F or Cl; Y =

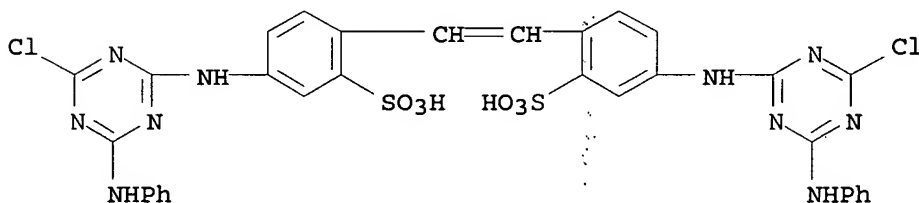
halogen, OR4, SR4 or NR4R5; R4 = (substituted) C1-6 alkyl, phenyl; R5 = H, (substituted) C1-6 alkyl where R4 and R5 together with N can form a pyrrolidiny, piperidiny or morpholinyl radical; n, m = 0, 1, 2; M = cation] as optical **brighteners** as well as to new **mixts.** of optical **brighteners**. Thus, a soln. of 21.3 parts aniline-2,5-disulfonic acid and 6.7 parts NaOH in 30 parts water is added to a stirred suspension of 15.5 parts cyanuric chloride in 50 parts ice water. The pH is kept at 6 by the dropwise addn. of 30% NaOH. The **mixt.** is stirred below 10° until primary arom. amine groups can no longer be detected by the diazo reaction. A soln. of 14.8 parts 4,4'-diaminostilbene-2,2'-disulfonic acid and 3.2 parts NaOH in 20 parts water is then added, the pH is adjusted to between 6.5 and 7.5 by the addn. of 30% NaOH and the **mixt.** is stirred at 30° until a neg. diazo reaction is obtained. A soln. of 5.3 parts L-aspartic acid in 10 parts 16% NaOH is added, and the **mixt.** is heated at reflux for 6 h, the pH being kept at 7.5 to 8.5 by the addn. of Na2CO3. The soln. is dild. to 320 parts with water to give a clear soln. contg. a **mixt.** of optical **brighteners**.

IT 37138-23-1P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manuf. of optical **brighteners** for paper and paperboard)

RN 37138-23-1 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



● 2 Na

IC ICM D21H021-30

ICS C07D251-68

CC 41-10 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)

Section cross-reference(s): 43

ST cyanuric chloride anilinesulfonic acid condensation product optical **brightener** papermaking

IT **Fluorescent brighteners**

Paper

Paperboard

Textiles

(manuf. of optical **brighteners** for paper and paperboard)

IT Polyamide fibers, miscellaneous

Polyurethane fibers

Rayon, miscellaneous

RL: MSC (Miscellaneous)

(manuf. of optical brighteners for paper and paperboard)

IT 4193-55-9P 37138-23-1P 142050-95-1P 533926-02-2P
 533926-03-3P 533926-04-4P 533926-05-5P 533926-06-6P
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (manuf. of optical brighteners for paper and paperboard)

IT 56-84-8, L-Aspartic acid, reactions 62-53-3, Aniline, reactions 67-56-1, Methanol, reactions 81-11-8, 4,4'-Diaminostilbene-2,2'-disulfonic acid 98-44-2, Aniline-2,5-disulfonic acid 108-77-0, Cyanuric chloride 111-42-2, Diethanolamine, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (manuf. of optical brighteners for paper and paperboard)

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L40 ANSWER 6 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1999:549263 HCAPLUS

DOCUMENT NUMBER: 131:171518

TITLE: Preparation of 4,4-bis(triazinylamino)-stilbene-2,2'-disulfonic acid compounds and compositions containing them

INVENTOR(S): Metzger, Georges; Cuesta, Fabienne; Rohringer, Peter; Reinehr, Dieter; Schlatter, Rene

PATENT ASSIGNEE(S): Ciba Specialty Chemicals Holding Inc., Switz.

SOURCE: PCT Int. Appl., 22 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

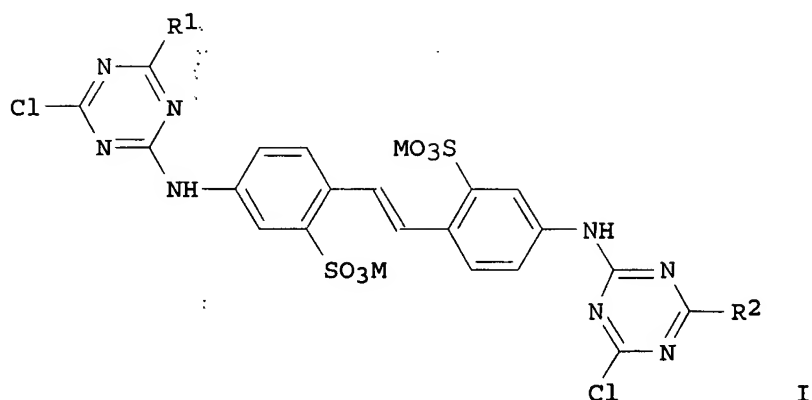
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9942454	A1	19990826	WO 1999-EP950	19990213
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2319641	AA	19990826	CA 1999-2319641	19990213
AU 9928337	A1	19990906	AU 1999-28337	19990213
AU 759897	B2	20030501		
BR 9908116	A	20001031	BR 1999-8116	19990213
EP 1054873	A1	20001129	EP 1999-908890	19990213

EP 1054873 B1 20040922 199902
 R: BE, CH, DE, ES, FR, GB, IT, LI, NL, SE, PT, FI 13
 JP 2002503727 T2 20020205 JP 2000-532406
 RU 2241703 C2 20041210 RU 2000-124270 199902
 ES 2228013 T3 20050401 ES 1999-908890 13
 IL 137534 A1 20050831 IL 1999-137534 199902
 US 6365737 B1 20020402 US 2000-622472 13
 PRIORITY APPLN. INFO.: EP 1998-810140 A 200008
 WO 1999-EP950 W 17
 OTHER SOURCE(S): MARPAT 131:171518 199802
 GI 20
 199902
 13



AB 4,4'-Bis-(triazinylamino)-stilbene-2,2'-disulfonic acid compd. I is
 prepd. by reacting a disodium salt of 4,4'-diaminostilbene-2,2'-
 disulfonic acid with cyanurichloride to form a intermediate; (b)
 reacting the intermediate with a compd. R1H and/or R2H, and (c) then
 reacting the resulting product with a compd. R3H, (R1, R2 and R3 =
 (un)substituted phenylamino, CONHR, SO2NHR, NHCOR, mono- or
 disulfonated phenylamino, morpholino, piperidino, pyrrolidino, -NH2,
 -NH(C1-4 alkyl), -N(C1-4 alkyl)2, -NH(C2-4 hydroxyalkyl), -N(C2-4
 hydroxyalkyl)2, -N(C1-4 alkyl)(C2-4 hydroxyalkyl), NHC2-4
 alkylsulfonic acid, -OC1-4alkyl, an amino acid or amino acid amide

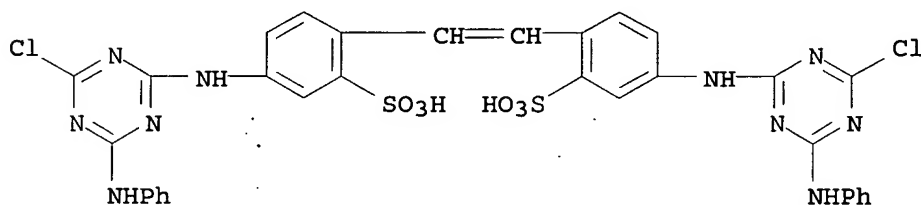
residue; R1, R2 = H; C1-4 alkyl, (un)substituted Ph, (un)substituted naphthyl; R = H, C1-3 alkyl; and M = H, metal, and (un)substituted ammonium) wherein reaction step (a) and/or (c) are carried out in a medium contg. water and a polyglycol. The compds. or their compns. are useful as **brightening agents** and sun protection agents for textile, paper, etc.

IT 37138-23-1

RL: RCT (Reactant); RACT (Reactant or reagent)
(starting material; prepn. of 4,4-bis(triazinylamino)-stilbene-2,2'-disulfonic acid compds. as **brightening agents** and sun protection agents for textile and paper)

RN 37138-23-1 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



● 2 Na

IC ICM C07D251-68

ICS D06L003-12

CC 40-6 (Textiles and Fibers)

Section cross-reference(s): 43, 46

ST triazinylaminostilbene disulfonic acid **brightening agent**
paper; sun protection agent textile triazinylaminostilbene disulfonate

IT Detergents

Paper

Solvents

Textiles

(prepn. of 4,4-bis(triazinylamino)-stilbene-2,2'-disulfonic acid compds. as **brightening agents** and sun protection agents for)

IT UV stabilizers

Whitening agents

(prepn. of 4,4-bis(triazinylamino)-stilbene-2,2'-disulfonic acid compds. as **brightening agents** and sun protection agents for textile and paper)

IT Polyoxyalkylenes, uses

RL: NUU (Other use, unclassified); USES (Uses)

(solvent; prepn. of 4,4-bis(triazinylamino)-stilbene-2,2'-disulfonic acid compds. as **brightening agents** and sun protection agents for textile and paper)

IT Glycols, uses

RL: NUU (Other use, unclassified); USES (Uses)

(solvents; prepn. of 4,4-bis(triazinylamino)-stilbene-2,2'-disulfonic acid compds. as **brightening agents** and sun protection agents for)

IT 133-66-4P 4193-55-9P 31900-04-6P 238419-95-9P 238419-96-0P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(prepn. of 4,4-bis(triazinylamino)-stilbene-2,2'-disulfonic acid compds. as **brightening** agents and sun protection agents for textile and paper)

IT 7732-18-5, Water, uses

RL: NUU (Other use, unclassified); USES (Uses)
(solvent; prepn. of 4,4-bis(triazinylamino)-stilbene-2,2'-disulfonic acid compds. as **brightening** agents and sun protection agents for)

IT 143-22-6 25322-68-3

RL: NUU (Other use, unclassified); USES (Uses)
(solvent; prepn. of 4,4-bis(triazinylamino)-stilbene-2,2'-disulfonic acid compds. as **brightening** agents and sun protection agents for textile and paper)

IT 62-53-3, Benzenamine, reactions 74-89-5, Methylamine, reactions 81-11-8, 4,4'-Diaminostilbene-2,2'-disulfonic acid 108-77-0, Cyanurichloride 111-42-2, reactions 37138-23-1 114589-95-6, Aspartic acid, disodium salt 175391-30-7

RL: RCT (Reactant); RACT (Reactant or reagent)
(starting material; prepn. of 4,4-bis(triazinylamino)-stilbene-2,2'-disulfonic acid compds. as **brightening** agents and sun protection agents for textile and paper)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L40 ANSWER 7 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1998:485328 HCAPLUS

DOCUMENT NUMBER: 129:154718

TITLE: Ink jet printing method using two components

INVENTOR(S): Takemoto, Kiyohiko

PATENT ASSIGNEE(S): Seiko Epson Corp., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

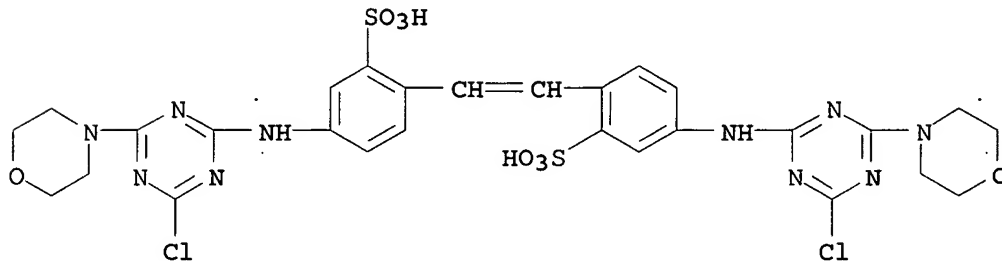
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10193775	A2	19980728	JP 1997-5020	19970114
PRIORITY APPLN. INFO.:				JP 1997-5020
				19970114

AB A jet-printing ink compn. and a soln. contg. a reactive agent and a **fluorescent brightening** agent are applied on a substrate to give a printed material. The method provides images with improved color formation and without color bleeding.

IT 28950-66-5, Whitex RP

RL: MOA (Modifier or additive use); USES (Uses)
(**brightening** agent; jet printing method using ink compn. and reactive agent compn. contg. **fluorescent brightening** agent)

RN 28950-66-5 HCAPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



● 2 Na

IC ICM B41M005-00
 ICS B41M005-00; C09D011-00
 CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 Section cross-reference(s): 42
 ST ink jet printing two component; reactive agent sol ink jet printing; **fluorescent brightening agent ink jet printing**
 IT Ink-jet printing
 (jet printing method using ink **compn.** and reactive agent **compn.** contg. **fluorescent brightening agent**)
 IT Inks
 (jet-printing; jet printing method using ink **compn.** and reactive agent **compn.** contg. **fluorescent brightening agent**)
 IT 24019-80-5, Whitex SKC 28950-66-5, Whitex RP
 RL: MOA (Modifier or additive use); USES (Uses)
 (**brightening agent**; jet printing method using ink **compn.** and reactive agent **compn.** contg. **fluorescent brightening agent**)
 IT 10377-60-3, Magnesium nitrate 30551-89-4, PAA 10C
 RL: TEM (Technical or engineered material use); USES (Uses)
 (reactive agent; jet printing method using ink **compn.** and reactive agent **compn.** contg. **fluorescent brightening agent**)

L40 ANSWER 8 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1998:466333 HCAPLUS

DOCUMENT NUMBER: 129:123760

TITLE: Preparation of triazinylaminostilbenes as ultra-violet absorbing agents for textile fibers

INVENTOR(S): Eckhardt, Claude; Metzger, Georges; Reinehr, Dieter; Sauter, Hanspeter; Dubini, Mario

PATENT ASSIGNEE(S): Ciba Specialty Chemicals Holding Inc., Switz.

SOURCE: Eur. Pat. Appl., 19 pp.

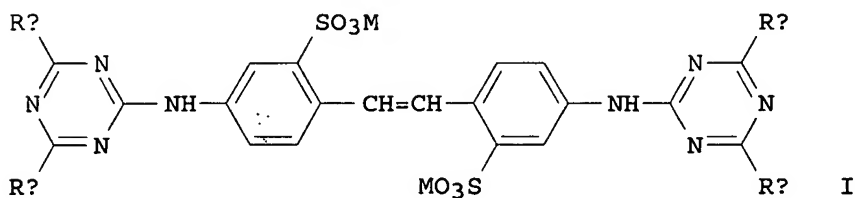
CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 850934	A1	19980701	EP 1997-810986	19971216
EP 850934	B1	20040310		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
GB 2320714	A1	19980701	GB 1997-25501	19971203
ES 2214601	T3	20040916	ES 1997-810986	19971216
ZA 9711567	A	19980624	ZA 1997-11567	19971223
AU 9749256	A1	19980625	AU 1997-49256	19971223
AU 739556	B2	20011018		
CN 1191861	A	19980902	CN 1997-107278	19971223
CN 1118461	B	20030820		
BR 9705635	A	19990518	BR 1997-5635	19971223
US 5945396	A	19990831	US 1997-996895	19971223
JP 10182622	A2	19980707	JP 1997-354922	19971224
PRIORITY APPLN. INFO.:			GB 1996-26851	A 19961224

OTHER SOURCE(S): MARPAT 129:123760
 GI



AB The present invention provides a compd. having the formula [I; in which each Rd is the same or different and each is NH-Z-N(Ra) (Rb) or N-[Z-N(Ra) (Rb)]2 in which Z is C2-14 alkylene or optionally

substituted arylene, Ra and Rb are the same or different and each is C1-12 alkyl, or Ra and Rb, together with the nitrogen atom to which they are each attached, form a morpholino, piperidino or piperazino ring; each Rc is the same or different and is NH₂, NH(C1-4 alkyl), N(C1-4 alkyl)₂, N(CH₂CH₂OH)₂, O-C1-4 alkyl, p-(MO₂C)C₆H₄NH, (MO₃S)C₆H₄NH, or morpholino and M is hydrogen, an alkali metal atom, ammonium or a cation formed from an amine] or a quaternized form thereof. The present invention also relates to a **compn.**

for the treatment of textiles, in particular to a **compn.** contg. the new ultra-violet absorbing agents; and to a method for the improvement of both the sun protection factor (UPF) and the **whiteness** of textile fiber material, comprising treating the material with the **compn.** according to the present invention. Thus, I (Rd = Cl, Rc = NH₂, M = Na) was heated with 3-dimethylamino-1-propylamine in an oil bath held at 90° to give I [Rd = NH(CH₂)₃NMe₂, Rc = NH₂, M = Na] (II). A rinse cycle softener base **compn.** contg. 2.7% II, distearyldimethylammonium chloride, fatty alc. ethoxylate, and deionized water was prepd. The latter **compn.** improved the Ganz **whiteness** and UPF of a cotton fabric.

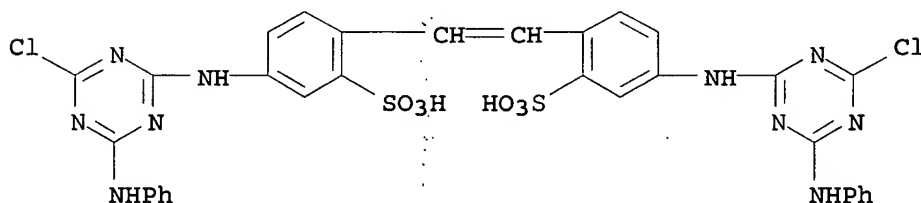
IT 37138-23-1 52205-59-1

RL: RCT (Reactant); RACT (Reactant or reagent)

(prepn. of triazinylaminostilbenes as ultra-violet absorbing agents for textile fibers)

RN 37138-23-1 HCAPLUS

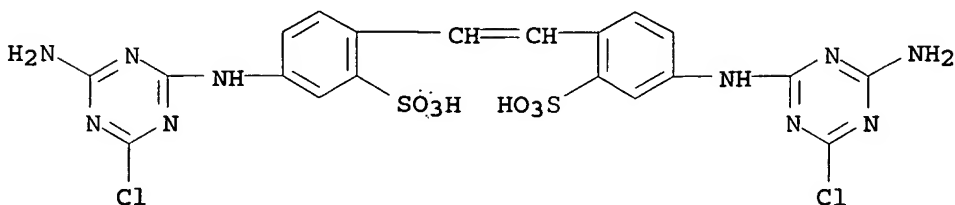
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



● 2 Na

RN 52205-59-1 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-amino-6-chloro-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



● 2 Na

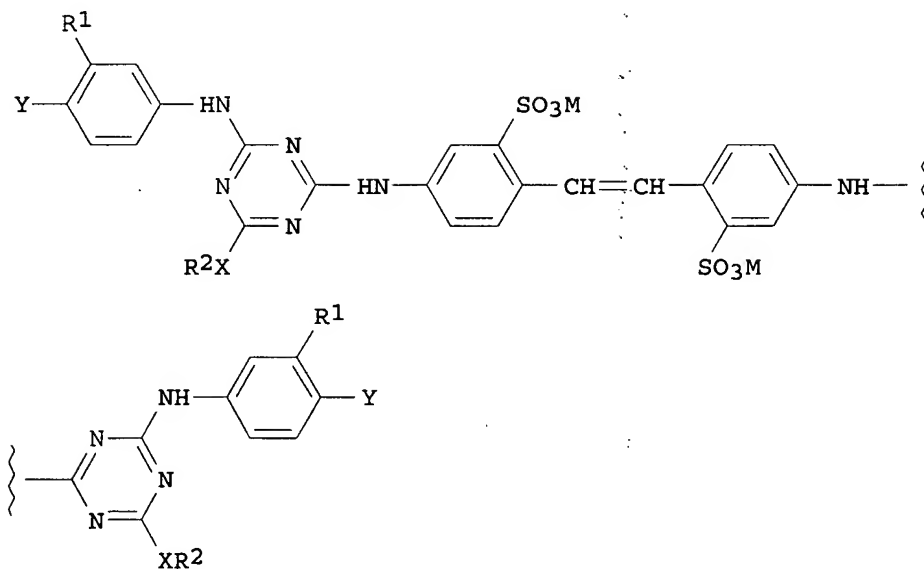
IC ICM C07D251-54
ICS D06M013-355
CC 40-7 (Textiles and Fibers)
IT Quaternary ammonium compounds, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(UV-absorbing compns. contg.; prepn. of
triazinylaminostilbenes as ultra-violet absorbing agents for
textile fibers)
IT 51-05-8, Procaine hydrochloride 104-78-9, 3-Diethylamino-1-
propylamine 108-00-9, 2-Dimethylaminoethylamine 109-01-3,
1-Methylpiperazine 109-55-7, 3-Dimethylamino-1-propylamine
123-12-6, N,N,N',N'-Tetraethyldiethylenetriamine 37138-23-1
37138-25-3 52205-59-1 210102-12-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of triazinylaminostilbenes as ultra-violet absorbing
agents for textile fibers)
REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN
THE RE FORMAT

L40 ANSWER 9 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1998:163376 HCAPLUS
DOCUMENT NUMBER: 128:193689
TITLE: Triazine derivatives as **fluorescent**
whitening agents and UV absorbers and
their use to increase the sun protection factor
of textile material
INVENTOR(S): Eckhardt, Claude; Reinehr, Dieter; Metzger,
Georges; Sauter, Hanspeter
PATENT ASSIGNEE(S): Ciba Specialty Chemicals Holding Inc., Switz.
SOURCE: Eur. Pat. Appl., 17 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 825188	A1	19980225	EP 1997-810334	199705 28
EP 825188	B1	20030129		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
EP 1254900	A2	20021106	EP 2002-17732	199705 28
EP 1254900	A3	20031203		
R: BE, CH, DE, ES, FR, GB, IT, LI, NL				
ES 2189936	T3	20030716	ES 1997-810334	199705 28
GB 2316401	A1	19980225	GB 1997-10926	199705 29
AU 9724641	A1	19980226	AU 1997-24641	199706

AU 724335	B2	20000914		02
ZA 9704830	A	19980817	ZA 1997-4830	
				199706
				02
US 5939379	A	19990817	US 1997-867110	
				199706
				02
JP 10087638	A2	19980407	JP 1997-156399	
				199706
				13
BR 9703601	A	19980818	BR 1997-3601	
				199706
				17
PRIORITY APPLN. INFO.:			GB 1996-17322	A
				199608
				17
			EP 1997-810334	A3
				199705
				28

OTHER SOURCE(S): MARPAT 128:193689
GI



AB The present invention relates to new compds. which are useful as UV absorbing agents (UVAs) and as fluorescent whitening agents (FWAs) for improving the sun protection factor (SPF) of textile fiber material, esp. cotton, polyamide and wool. The compds. have general structure I [M = H, alkali metal, ammonium, a cation formed from an amine; R1 = H, hydroxy; R2 = C1-4 alkyl, phenyl; Y = C(O)NR3R4, SO2NR3R4, C(O)R2, C(O)OM; R3, R4 = H, C1-4 alkyl; X = NH, O, or XR2 together as morpholino group]. The textiles can be treated by washing with a detergent contg. the

comps. of this invention.

IT 37138-23-1P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP

(Preparation); RACT (Reactant or reagent)

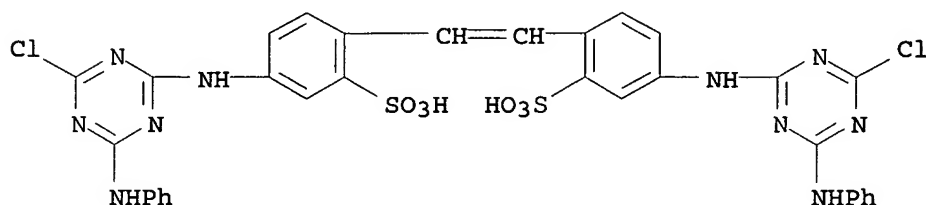
(prepn. of triazine derivs. as **fluorescent**

whitening agents and UV absorbers for increasing the sun

protection factor of textile material)

RN 37138-23-1 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



● 2 Na

IC ICM C07D251-68

ICS D06M013-00

CC 40-6 (Textiles and Fibers)

Section cross-reference(s): 46

ST textile **whitening** UV absorber; triazine deriv textile

whitening UV absorber

IT Polyoxyalkylenes, uses

RL: TEM (Technical or engineered material use); USES (Uses)

(fatty alkyl ethers, detergent **compn.**; triazine derivs.

as **fluorescent whitening** agents and UV

absorbers for increasing the sun protection factor of textile material)

IT Textiles

RL: PEP (Physical, engineering or chemical process); PROC (Process)

(linen; triazine derivs. as **fluorescent**

whitening agents and UV absorbers for increasing the sun

protection factor of textile material)

IT Soaps

RL: TEM (Technical or engineered material use); USES (Uses)

(sodium, detergent **compn.**; triazine derivs. as

fluorescent whitening agents and UV absorbers

for increasing the sun protection factor of textile material)

IT UV stabilizers

Whitening agents

(triazine derivs. as **fluorescent whitening**

agents and UV absorbers for increasing the sun protection factor of textile material)

IT Acrylic fibers, processes

Cotton

Polyamide fibers, processes

Polyester fibers, processes

Rayon, processes

Silk

Wool

- RL: PEP (Physical, engineering or chemical process); PROC (Process)
(triazine derivs. as **fluorescent whitening**
agents and UV absorbers for increasing the sun protection factor
of textile material)
- IT 60-00-4, EDTA, uses 98-11-3D, Benzenesulfonic acid, alkyl derivs.,
sodium salts, uses 1343-88-0, Magnesium silicate 6834-92-0
7757-82-6, Sodium sulfate, uses 7758-29-4, Sodium tripolyphosphate
9004-32-4 25322-68-3D, fatty alkyl ethers
- RL: TEM (Technical or engineered material use); USES (Uses)
(detergent **compn.**; triazine derivs. as
fluorescent whitening agents and UV absorbers
for increasing the sun protection factor of textile material)
- IT 200395-03-5P 203250-74-2P 203250-75-3P 203250-76-4P
203250-77-5P 203250-78-6P
- RL: IMF (Industrial manufacture); MOA (Modifier or additive use);
TEM (Technical or engineered material use); PREP (Preparation); USES
(Uses)
(prepn. of triazine derivs. as **fluorescent**
whitening agents and UV absorbers for increasing the sun
protection factor of textile material)
- IT 37138-23-1P 203250-73-1P
- RL: IMF (Industrial manufacture); RCT (Reactant); PREP
(Preparation); RACT (Reactant or reagent)
(prepn. of triazine derivs. as **fluorescent**
whitening agents and UV absorbers for increasing the sun
protection factor of textile material)
- IT 62-53-3, Benzenamine, reactions 63-74-1, Sulfanilamide 74-89-5,
Methylamine, reactions 99-92-3 108-77-0, Cyanuric chloride
110-91-8, Morpholine, reactions 133-10-8, Sodium 4-aminosalicylate
6274-22-2 7336-20-1, Disodium 4,4'-diaminostilbene-2,2'-
disulfonate
- RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of triazine derivs. as **fluorescent**
whitening agents and UV absorbers for increasing the sun
protection factor of textile material)

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN
THE RE FORMAT

L40 ANSWER 10 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1996:674048 HCAPLUS
DOCUMENT NUMBER: 125:303742
TITLE: Manufacture of 4,4'-bis[(6-anilino-s-triazin-2-yl)amino]stilbene-2,2'-disulfonic acid
derivatives as optical **brighteners**

INVENTOR(S): Zwierzynski, Krzysztof; Tarwacki, Andrzej;
Rudzinska, Benita; Higersberger, Ewa;
Malasnicki, Wladyslaw L.; Maleska, Barbara;
Kalinowski, Jan; Nowacki, Andrzej; Guzewska,
Teresa

PATENT ASSIGNEE(S): Instytut Przemyslu Organicznego, Pol.
SOURCE: Pol., 6 pp.
CODEN: POXXA7

DOCUMENT TYPE: Patent
LANGUAGE: Polish
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PL 164830

B1

19941031

PL 1990-288012

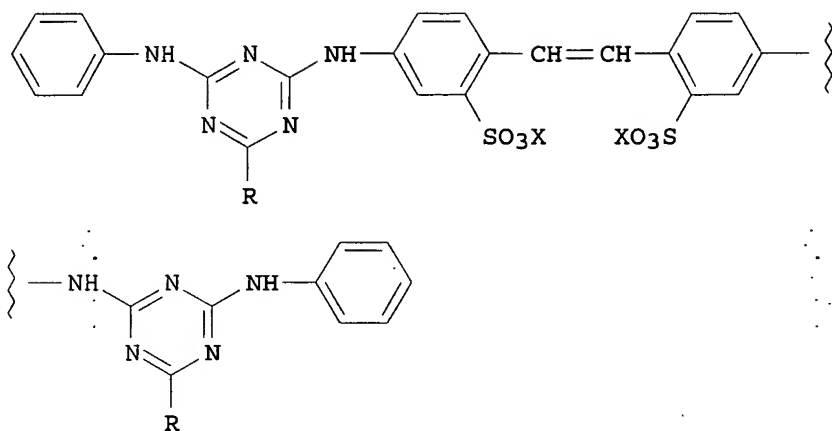
199011
28

PRIORITY APPLN. INFO.:

PL 1990-288012

199011
28

GI



AB The title compds. [I; R = NHPh, morpholino, X = Na; or R = N(CH₂CH₂OH)₂, X = H] were prepd. by 3-step procedure comprising (1) condensation of cyanuric chloride (II) with PhNH₂ followed by (2) condensation of the resulting intermediate with di-Na 4,4'-diaminostilbene-2,2'-disulfonate (III) and (3) further condensation with morpholine, PhNH₂ or HN(CH₂CH₂OH)₂ in the presence of Na₂CO₃ and/or NaOH in an aq. alc., under specified conditions. For example, 488 parts of aq. PrOH soln. contg. 132 PhNH₂ was added over 30 min to 1335.4 parts of aq. suspension of 258 g II, the mixt. was stirred for 1 h, and the pH was adjusted to 2.5 at 25° using 423 parts aq. soln. contg. 85 parts Na₂CO₃. After PhNH₂ reacted completely, 1373 g of aq. soln. contg. 240 parts III was added over 15 min to the above mixt. followed by 343 parts aq. soln. contg. 69 parts Na₂CO₃ (over 20-30 min) to raise the pH to 6.2, the mixt. was heated to 70-75° and stirred for 1-1.5 h to give a suspension of di-Na 4,4'-bis[(6-anilino-4-chloro-s-triazin-2-yl)amino]stilbene-2,2'-disulfonate. This was treated with 123 parts morpholine and the whole refluxed for 3 h and neutralized with 486 g aq. soln. contg. 74 g NaOH to give 563 parts I (R = morpholino, X = Na) in β-cryst. form.

IT 37138-23-1P

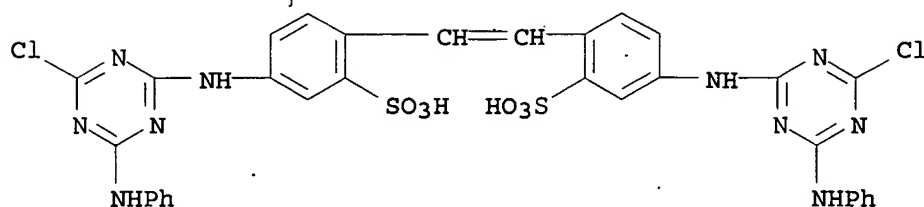
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(manuf. and amination with morpholine; manuf. of bis[(anilino-s-triazinyl)amino]stilbenedisulfonic acid derivs. as optical brighteners)

RN 37138-23-1 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-

(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



● 2 Na

- IC ICM C07D251-68
ICS C07D413-04
- CC 45-4 (Industrial Organic Chemicals, Leather, Fats, and Waxes)
Section cross-reference(s): 40
- ST cyanuric chloride condensation aniline optical **brightener**;
anilinochlorotriazinylaminostilbenedisulfonate manuf amination
morpholine optical **brightener**;
anilino-triazinylaminostilbenedisulfonic acid deriv manuf optical
brightener
- IT **Fluorescent brighteners**
(manuf. of bis[(anilino-s-triazinyl)amino]stilbenedisulfonic acid
derivs. as optical **brighteners**)
- IT 62-53-3, Aniline, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(amination of cyanuric chloride; manuf. of bis[(anilino-s-
triazinyl)amino]stilbenedisulfonic acid derivs. as optical
brighteners)
- IT 108-77-0, Cyanuric chloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(amination with aniline; manuf. of bis[(anilino-s-
triazinyl)amino]stilbenedisulfonic acid derivs. as optical
brighteners)
- IT 7336-20-1, Disodium 4,4'-diaminostilbene-2,2'-disulfonate
RL: RCT (Reactant); RACT (Reactant or reagent)
(condensation reaction with cyanuric chloride-aniline adduct;
manuf. of bis[(anilino-s-triazinyl)amino]stilbenedisulfonic acid
derivs. as optical **brighteners**)
- IT 110-91-8, Morpholine, reactions 111-42-2, Diethanolamine,
reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(condensation reaction with di-Na 4,4'-bis[(6-anilino-4-chloro-s-
triazin-2-yl)amino]stilbene-2,2'-disulfonate; manuf. of
bis[(anilino-s-triazinyl)amino]stilbenedisulfonic acid derivs. as
optical **brighteners**)
- IT 37138-23-1P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP
(Preparation); RACT (Reactant or reagent)
(manuf. and amination with morpholine; manuf. of
bis[(anilino-s-triazinyl)amino]stilbenedisulfonic acid derivs. as
optical **brighteners**)
- IT 133-66-4P 4404-43-7P 16090-02-1P
RL: IMF (Industrial manufacture); PREP (Preparation)
(manuf. of bis[(anilino-s-triazinyl)amino]stilbenedisulfonic acid

derivs. as optical brighteners)

L40 ANSWER 11 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1989:215255 HCAPLUS

DOCUMENT NUMBER: 110:215255

TITLE: Detergent compositions for washing
white wall parts of bicycle tires

INVENTOR(S): Kijima, Tetsuo; Shinohara, Shogo; Sawada,
Shigeru

PATENT ASSIGNEE(S): Taiho Industries Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 63248898	A2	19881017	JP 1987-82879	198704 06
JP 07076358	B4	19950816	JP 1987-82879	198704 06

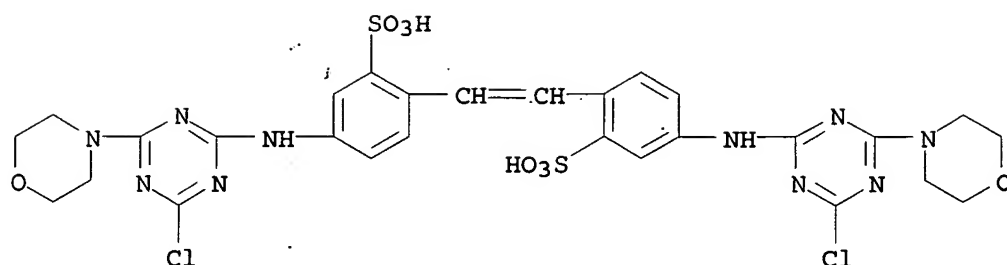
PRIORITY APPLN. INFO.:

AB The title compns. contain 0.01-5.0% oil-sol.
fluorescent brighteners and 95.0-99.99% polar
solvents (b.p. $\leq 150^\circ$). Thus, discolored white
wall of a bicycle tire was washed using a detergent contg. 4.0%
Hakkol S 100 (fluorescent brightener) and 96.0%
Et Cellosolve to show excellent detergency and restaining
resistance.

IT 28950-66-5, Whitex RP
RL: USES (Uses)
(fluorescent brightener, cleaning
compns. contg., for white wall parts of bicycle
tires)

RN 28950-66-5 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(4-
morpholinyl)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA
INDEX NAME)



● 2 Na

IC ICM C11D007-60
 ICI C11D007-60, C11D007-50, C11D007-00
 CC 46-6 (Surface Active Agents and Detergents)
 Section cross-reference(s): 39
 ST bicycle tire detergent **fluorescent brightener**;
 polar solvent detergent tire
 IT **Fluorescent brighteners**
 (oil-sol., detergents contg., for cleaning white wall
 parts of bicycle tires)
 IT Tires
 (bicycle, **compns.** for cleaning white wall
 parts of, contg. **fluorescent brighteners**)
 IT Vehicles
 (bicycles, tires, **compns.** for cleaning white
 wall parts of, contg. **fluorescent brighteners**
)
 IT Detergents
 (cleaning **compns.**, contg. **fluorescent**
brighteners, for white wall parts of bicycle
 tires)
 IT 67-63-0, Isopropanol, uses and miscellaneous 76-13-1, Freon 113
 109-86-4, Methyl cellosolve 110-80-5, Ethyl cellosolve
 RL: USES (Uses)
 (detergents contg. **fluorescent brighteners**
 and, for white wall parts of bicycle tires)
 IT 91-44-1, 4-Methyl-7-(diethylamino)coumarin
 RL: USES (Uses)
 (**fluorescent brightener**, Hakkol P, cleaning
compns. contg., for white wall parts of bicycle
 tires)
 IT 3426-43-5, Whitex BF 28950-66-5, Whitex
 RP 120797-63-9, Hakkol S 100
 RL: USES (Uses)
 (**fluorescent brightener**, cleaning
compns. contg., for white wall parts of bicycle
 tires)

L40 ANSWER 12 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1984:8519 HCAPLUS

DOCUMENT NUMBER: 100:8519

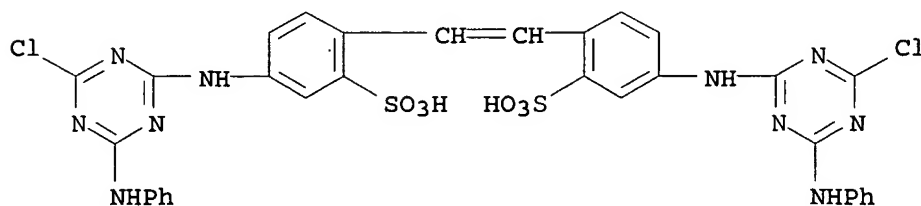
TITLE: Readily wettable white form of sodium
 4,4'-bis(6-morpholino-4-anilino-2-ylamino)stilbene-2,2'-disulfonate

INVENTOR(S): PirkI, Jaromir; Podstata, Jiri
 PATENT ASSIGNEE(S): Czech.
 SOURCE: Czech., 3 pp.
 CODEN: CZXXA9
 DOCUMENT TYPE: Patent
 LANGUAGE: Czech
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CS 209395	B	19811130	CS 1980-2230	198003 31
PRIORITY APPLN. INFO.: CS 1980-2230				A 198003 31

AB A purer product was prepd. by condensing the components in the presence of a surfactant which facilitated washing out of by-products. Thus, a steel autoclave was charged with 46% aq. paste of Na 4,4'-bis(6-chloro-4-anilinotriazin-2-ylamino)stilbene-2,2'-disulfonate [37138-23-1] 220, water 800, Synferol AH [12774-37-7] (sulfated oleic acid ester) 10, morpholine [110-91-8] 50, and concd. aq. NaOH 25 parts, heated in 1 h to 130°, stirred 1 h, and allowed to cool to 95°. The resulting suspension was filtered hot, and the paste was washed with 500 parts 0.5% aq. Na₂CO₃ and treated with 10 parts Abeson NAM (C₁₂H₂₅C₆H₄SO₃Na) [25155-30-0] to give a thick liq. which was evapd. in a fluidized bed. The obtained conc. (210 parts) of the title compd. [16090-02-1] was readily wettable even after homogenizing with 490 parts Na₂CO₃.

IT 37138-23-1
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with morpholine, in presence of surfactant)
 RN 37138-23-1 HCAPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



IC D06L003-12
 CC 41-10 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)
 ST stilbene fluorescent whitener wettable;
 aminostilbene fluorescent whitener wettable;

triazinylaminostilbene fluorescent whitener;
 wettability stilbene fluorescent whitener;
 surfactant fluorescent whitener synthesis
 IT **Fluorescent brighteners**
 (bis[(anilinomorpholinotriazinyl)amino]stilbenedisulfonic acid
 disodium salt, manuf. of, in pure and easily wettable form)
 IT **Surfactants**
 (sulfated oleic acid esters, stilbene fluorescent
brightener manuf. in presence of, for improved purity)
 IT 16090-02-1P
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (fluorescent brightener, manuf. of, in pure
 and easily wettable form)
 IT 37138-23-1
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with morpholine, in presence of surfactant)
 IT 25155-30-0
 RL: USES (Uses)
 (stilbene fluorescent brightener
 compn. contg., wettable)
 IT 112-80-1D, esters, sulfated 12774-37-7
 RL: USES (Uses)
 (surfactants, stilbene fluorescent brightener
 manuf. in presence of, for improved purity)

L40 ANSWER 13 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1984:8518 HCAPLUS

DOCUMENT NUMBER: 100:8518

TITLE: **Fluorescent brightener**
soluble in an acid medium

INVENTOR(S): Prejmereanu, Ioan; Barbu, Mihai; Stoenescu,
Caterian; Ivan, Florica

PATENT ASSIGNEE(S): Intreprinderea de Medicamente si Coloranti
"Sintofarm", Rom.

SOURCE: Rom., 3 pp.
CODEN: RUXXA3

DOCUMENT TYPE: Patent

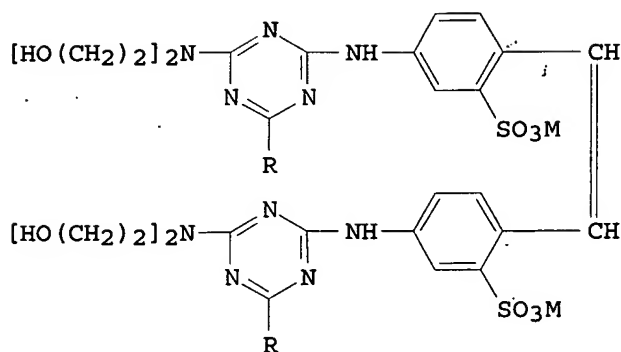
LANGUAGE: Romanian

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

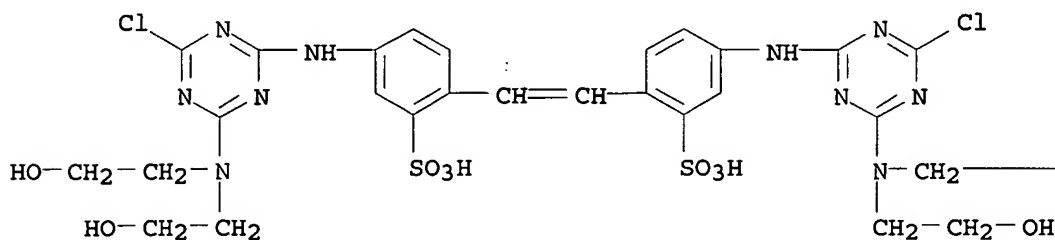
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
RO 79484	B	19830429	RO 1980-100715	198004 04
PRIORITY APPLN. INFO.:			RO 1980-100715	198004 04

GI



- AB **Fluorescent brightener I** (R = p-NaO₃SC₆H₄O, M = Na) (II) [73398-53-5] is manufd. by reaction of I (R = Cl, M = H) (III) [4028-32-4] with p-hydroxybenzenesulfonic acid (IV) [98-67-9] at 100° and pH 8. Thus, a soln. contg. 8.5 parts 4,4'-diaminostilbene-2,2'-disulfonic acid [81-11-8] at pH 7 and concn. 80 g/L was added in 2-3 h to a suspension contg. cyanuric chloride [108-77-0] 18.45, ice 100, and water 50 parts, and the mixt. was neutralized to pH 6.5 at 8-10° with 10% aq. Na₂CO₃. After complete disappearance of free amine, 10.5 parts diethanolamine [111-42-2] was added, and the reaction mixt. was heated 5 h at 35-40° and pH 7.5-8 (NaOH) and salted out with 10% aq. NaCl to give III. A paste of III was heated 5 h at 100° and pH 8 (NaOH) with 17.4 parts IV to give 80 parts II.
- IT **4028-32-4P**
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (prepn. and reaction of, with hydroxybenzenesulfonic acid)
- RN 4028-32-4 HCAPLUS
- CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[bis(2-hydroxyethyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



● 2 Na

PAGE 1-B

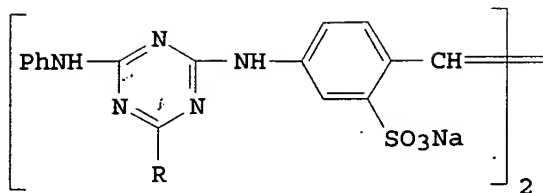
—CH₂—OH

IC C09B027-02; B06L003-12
CC 41-10 (Dyes, Organic Pigments, Fluorescent Brighteners, and
Photographic Sensitizers)
Section cross-reference(s): 25, 28
ST acid soluble fluorescent brightener;
triazinylstilbene fluorescent brightener acid
soluble; stilbene fluorescent brightener acid
soluble; diethanolamine fluorescent brightener
acid soluble; sulfophenoxy fluorescent brightener
acid soluble
IT **Fluorescent brighteners**
(bis[[[bis(hydroxyethyl)amino](sulfophenoxy)triazinyl]amino]stilb
enedisulfonic acid tetra-Na salt, acid-sol., manuf. of)
IT 73398-53-5
RL: USES (Uses)
(fluorescent brightener, acid-sol.)
IT 4028-32-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
RACT (Reactant or reagent)
(prepn. and reaction of, with hydroxybenzenesulfonic acid)

L40 ANSWER 14 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1982:69047 HCAPLUS
DOCUMENT NUMBER: 96:69047
TITLE: White form sodium 4,4'-bis(6-
morpholino-4-anilino)triazinyl-2-amino)stilbene-
2,2'-disulfonate
INVENTOR(S): PirkI, Jaromir; Fisar, Ctibor
PATENT ASSIGNEE(S): Czech.
SOURCE: Czech., 3 pp.
CODEN: CZXXA9
DOCUMENT TYPE: Patent
LANGUAGE: Czech
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CS 189499	B	19790430	CS 1977-6020	197709 16
PRIORITY APPLN. INFO.:			CS 1977-6020	A 197709 16

GI



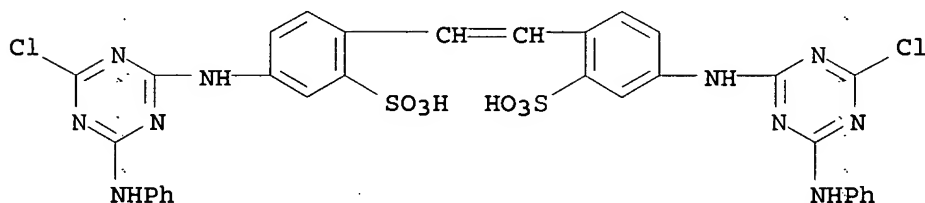
AB The title compd. (I; R = morpholino) was prepd. by mixing a 46% wet paste of I (R = Cl) with H₂O, heating to 60°, adding morpholine, and keeping the mixt. 30 min at 60°. Subsequently 30% NaOH soln. and a 35% paste of I from the preceding run are added and the mixt. is heated with steam to 100° and kept until the yellowish suspension turns pure white (15-75 min). The product is stabilized by adding NaCl and Na₂S₂O₄, stirring, filtering hot, and drying. I is an additive to laundry agents for cotton.

IT 37138-23-1

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with morpholine)

RN 37138-23-1 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



● 2 Na

IC C07C039-18

CC 28-19 (Heterocyclic Compounds (More Than One Hetero Atom))

ST triazinamine stilbene deriv; whitening agent triazineamine stilbene deriv

IT 37138-23-1

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with morpholine)

L40 ANSWER 15 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1980:182569 HCAPLUS

DOCUMENT NUMBER: 92:182569

TITLE: Liquid sodium 4,4'-bis(6"-anilino-4"-hydroxyethyltaurinotriazinyl-2"-amino)stilbene-2,2'-disulfonate

INVENTOR(S): PirkI, Jaromir

PATENT ASSIGNEE(S): Czech.

SOURCE: Czech., 2 pp.

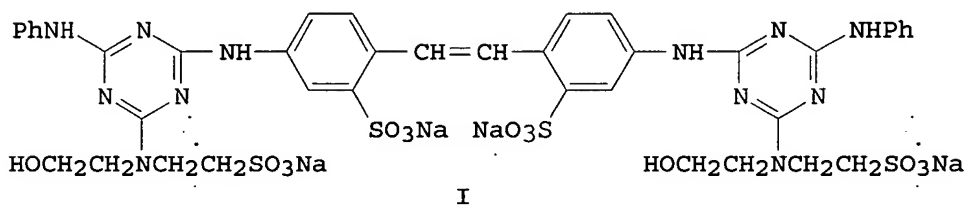
CODEN: CZXXA9

DOCUMENT TYPE: Patent

LANGUAGE: Czech
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CS 179165	B	19790615	CS 1975-4371	19750620
PRIORITY APPLN. INFO.:			CS 1975-4371	19750620

GI



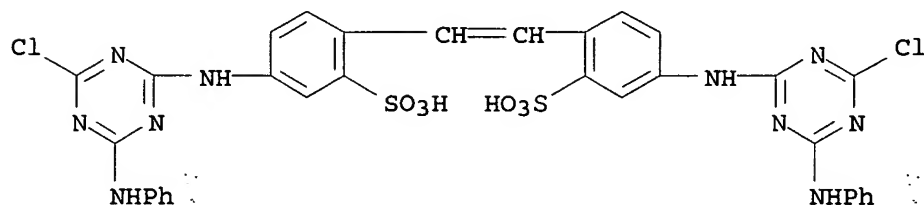
AB A mixt. of 51 parts Na 4,4'-bis(6"-chloro-4"-anilino-1,3,5-triazin-2-yl)amino)stilbene-2,2'-disulfonate. [37138-23-1], 30 parts 89% N-(hydroxyethyl)taurine [29706-49-8], 30 parts triethanolamine, and 250 vols. H₂O was refluxed 4 h, treated dropwise with 60 vols. 2.5N Na₂CO₃, refluxed 2 h, evapd. to 300 vols. mixed with kieselguhr and Na₂S₂O₄, and filtered to give 330 parts title compd. (I) [73348-26-2] in liq. form. I is a **fluorescent whitener** for cellulose and polyamide materials.

IT 37138-23-1

RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with (hydroxyethyl)taurine)

RN 37138-23-1 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



● 2 Na

IC C07D403-10

CC 40-11 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)

MEI HUANG EIC1700 REM4B28 571-272-3952

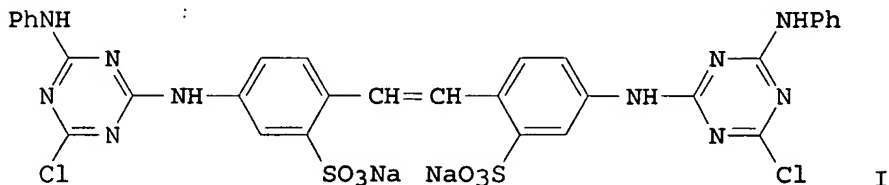
08/17/2006

ST stilbene fluorescent whitener liq;
 triazinylaminostilbene fluorescent whitener;
 taurine stilbene fluorescent whitener;
 hydroxyethyltaurine fluorescent whitener
 IT Fluorescent brighteners
 (bis(triazinylamino)stilbene deriv., manuf. of liq.-form)
 IT 73348-26-2
 RL: USES (Uses)
 (fluorescent brightener, manuf. of liq.-form)
 IT 37138-23-1
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with (hydroxyethyl)taurine)

L40 ANSWER 16 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1980:24258 HCAPLUS
 DOCUMENT NUMBER: 92:24258
 TITLE: Stable crystalline sodium 4,4'-bis(6"-chloro-4"-
 anilino)triazinyl-2"-amino)stilbene-2,2'-
 disulfonate
 INVENTOR(S): PirkI, Jaromir; Fisar, Ctibor
 PATENT ASSIGNEE(S): Czech.
 SOURCE: Czech., 2 pp.
 CODEN: CZXXA9
 DOCUMENT TYPE: Patent
 LANGUAGE: Czech
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CS 178766	B	19790515	CS 1976-1410	197603 04
PRIORITY APPLN. INFO.:			CS 1976-1410	197603 04

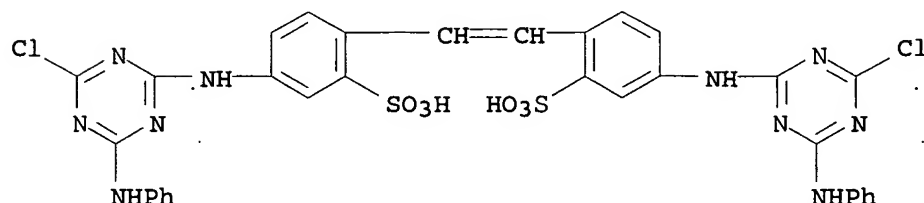
GI



AB Equiv. amts. of 2-anilino-4,6-dichloro-s-triazine [2272-40-4] and
 4,4'-diamino-2,2'-stilbenedisulfonic acid [81-11-8] were mixed in
 an aq. suspension contg. NaHCO₃ and surfactant (Slovasol O), and the
 mixt. was kept at 90° by feeding steam to give the
 title compd. (I) [37138-23-1].
 IT 37138-23-1P
 RL: PREP (Preparation)

(manuf. of stable cryst.)

RN 37138-23-1 HCAPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



IC D06L003-12
 CC 40-11 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)
 ST stilbene fluorescent brightener stable;
 triazinylaminostilbene cryst stable; chlorotriazinyl stilbene cryst stable
 IT **Fluorescent brighteners**
 (bis[(anilinochlorotriazinyl)amino]stilbenedisulfonic acid disodium salt, manuf. of stable cryst.)
 IT 37138-23-1P
 RL: PREP (Preparation)
 (manuf. of stable cryst.)

L40 ANSWER 17 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1977:469724 HCAPLUS

DOCUMENT NUMBER: 87:69724

TITLE: Effect of certain components of synthetic detergents on the action of fluorescent whiteners of various types

AUTHOR(S): Medvegyev Kiss, Erzsebet; Medvegyev, Vlagyimir; Kardos Tasi, Mrs. M.

CORPORATE SOURCE: Tiszamenti Vegyimuvek, Szolnok, Hung.

SOURCE: Kolorisztikai Ertesito (1977), 19(1), 2-13

CODEN: KOERA9; ISSN: 0023-2939

DOCUMENT TYPE: Journal

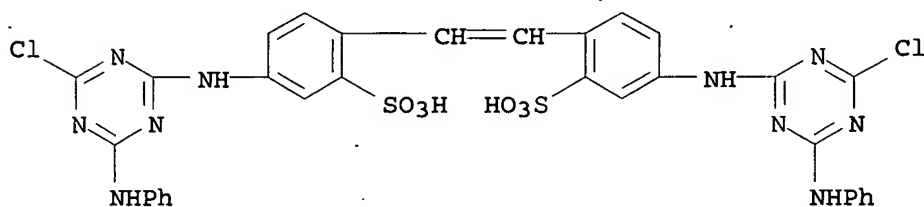
LANGUAGE: Hungarian

AB The effects of surfactants, inorg. phosphates, and inorg. salts on the whitening efficiency of bis[(anilino-s-triazinyl)amino]stilbenedisulfonate- and 7-aminocoumarin-type fluorescent whiteners on cotton or wool were examd. When a stilbene whitener was used a synergism existed between it and the detergent components. The coumarins were more sensitive to the detergent compn. and the synergism not as pronounced as for the stilbene whiteners. Thus the detergent components and concn. have to be carefully selected when aminocoumarins are used.

IT 37138-23-1
 RL: USES (Uses)
 (fluorescent brightening efficiency of, in presence of detergent components)

RN 37138-23-1 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



● 2 Na

CC 40-11 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)
Section cross-reference(s): 46

ST coumarin fluorescent whitener detergent;
stilbene fluorescent whitener detergent;
triazinyl stilbene whitener detergent; aminocoumarin
whitener detergent; detergent effect fluorescent
whitener

IT **Fluorescent brighteners**
(aminocoumarins and bis[(anilino-triazinyl)amino]stilbenedisulfonates, efficiency of, in presence of detergent components)

IT Soaps
RL: PROC (Process)
(fluorescent brightener efficiency in
presence of)

IT Detergents
(fluorescent brightener efficiency in
presence of components of)

IT 25155-30-0 25322-68-3D, fatty alkyl ether 497-19-8, uses and
miscellaneous 7757-82-6, uses and miscellaneous 7758-29-4
RL: PROC (Process)
(fluorescent brightener efficiency in
presence of)

IT 19063-57-1D, derivs. 37138-23-1
RL: USES (Uses)
(fluorescent brightening efficiency of, in
presence of detergent components)

L40 ANSWER 18 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1976:594100 HCAPLUS

DOCUMENT NUMBER: 85:194100

TITLE: White form of disodium
4,4'-bis(6''-morpholino-4''-anilino-triazinyl-2''-
amino)stilbene-2,2'-disulfonate

INVENTOR(S): PirkI, Jaromir

PATENT ASSIGNEE(S): Czech.

SOURCE: Czech., 3 pp.
CODEN: CZXXA9

DOCUMENT TYPE: Patent

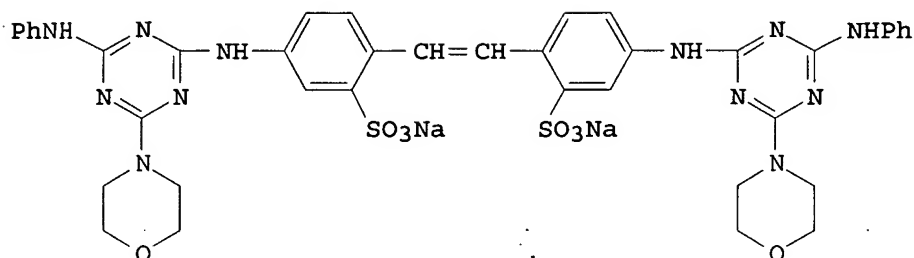
LANGUAGE: Czech

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CS 162583	B	19750715	CS 1974-1920	19740318
PRIORITY APPLN. INFO.:			CS 1974-1920	A 19740318

GI



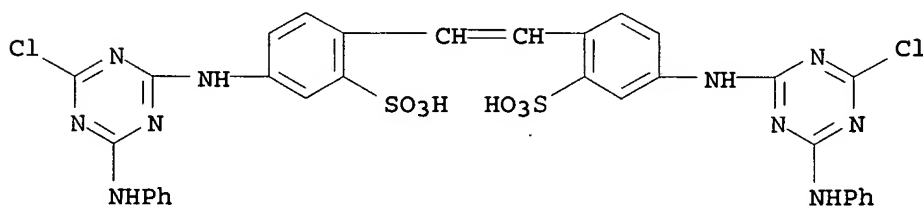
I

AB The title compd. (I) [16090-02-1] was prepd. by heating 2-anilino-4,6-dichloro-s-triazine [2272-40-4] with di-Na 4,4'-diamino-2,2'-stilbenedisulfonate [7336-20-1] in EtOH contg. NaHCO₃ at 70-5°, treating the mixt. with morpholine [110-91-8] and aq. NaHCO₃, and refluxing with dil. NaCl soln.

IT 37138-23-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with morpholine)

RN 37138-23-1 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



● 2 Na

IC C07C039-18

CC 40-11 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)

ST stilbene fluorescent brightener;
triazinylaminostilbene fluorescent brightener;
anilinomorpholinotriazine fluorescent brightener
; morpholinotriazine fluorescent brightener

IT Fluorescent brighteners
(bis[(anilinomorpholinotriazinyl)amino]stilbenedisulfonic acid

disodium salt, white form, manuf. of)

IT 37138-23-1

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with morpholine)

L40 ANSWER 19 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1976:517530 HCAPLUS

DOCUMENT NUMBER: 85:117530

TITLE: Acute oral, dermal, and inhalation studies

AUTHOR(S): Thomann, P.; Krueger, L.

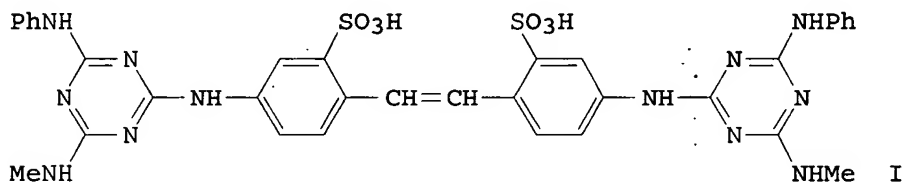
CORPORATE SOURCE: Ciba-Geigy A.-G., Basel, Switz.

SOURCE: Environmental Quality and Safety, Supplement
(1975), 4(Fluoresc. Whitening Agents), 193-8
CODEN: EQSSDX; ISSN: 0340-4714

DOCUMENT TYPE: Journal

LANGUAGE: English

GI



AB The acute oral, dermal, and inhalation toxicity of some or all of a group of 36 **fluorescent whitening agents** was tested. Numerous agents tested as pure compds. or in com. **formulations** showed a low order of oral toxicity in various species; most of the compds. can be classified as nontoxic or relatively harmless. Topical application of various **whiteners** did not give rise to any systemic toxicity, only a few cases of skin irritation, and some cases of eye irritation. 4,4'-Bis[(4-anilino-6-methylamino-1,3,5-triazin-2-yl)amino]stilbene-2,2'-disulfonic acid (I) [35632-99-6] and di-K 4,4'-bis(4-phenyl-1,2,3-triazol-2-yl)stilbene-2,2'-disulfonate [52237-03-3] were not toxic upon inhalation.

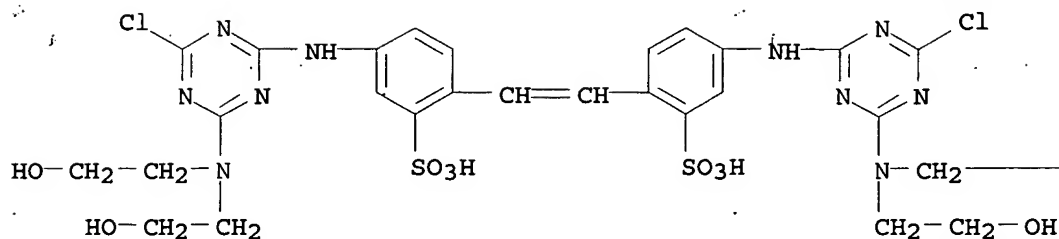
IT 4028-32-4

RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)
(toxicity of)

RN 4028-32-4 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[bis(2-hydroxyethyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



● 2 Na

PAGE 1-B

—CH₂—OH

CC 4-3 (Toxicology)
 Section cross-reference(s): 40
 ST **fluorescent whitener toxicity**
 IT Toxicity
 (of fluorescent brighteners)
 IT **Fluorescent brighteners**
 (toxicity of)
 IT 91-44-1 2583-80-4 2866-43-5 3066-05-5 3426-43-5
 4028-32-4 4193-55-9 4470-72-8 6025-18-9 6416-68-8
 6909-55-3 7128-64-5 12224-02-1 13863-31-5 14295-72-8
 15208-16-9 16090-02-1 16143-18-3 16324-27-9 16470-24-9
 19683-09-1 24239-35-8 24565-13-7 27344-41-8 28950-61-0
 30468-49-6 34391-94-1 34771-66-9 35632-99-6 40691-09-6
 41098-56-0 42380-62-1 52237-03-3 52301-70-9 60397-73-1
 60397-74-2
 RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)
 (toxicity of)

L40 ANSWER 20 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1974:146982 HCAPLUS
 DOCUMENT NUMBER: 80:146982
 TITLE: Bis(triazinylamino)-2,2'-stilbenedisulfonic acids as fluorescent whiteners for organic materials
 INVENTOR(S): Fringeli, Werner
 PATENT ASSIGNEE(S): Ciba-Geigy A.-G.
 SOURCE: Ger. Offen., 44 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1

MEI HUANG EIC1700 REM4B28 571-272-3952

08/17/2006

PATENT INFORMATION:

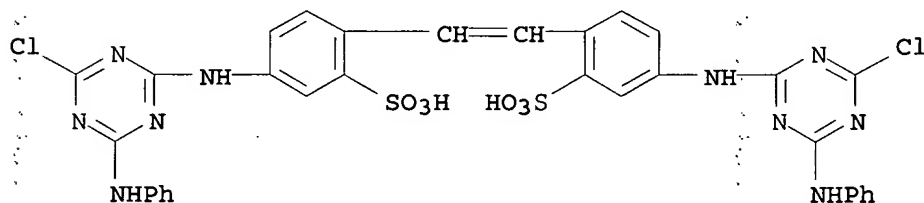
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2335570	A1	19740131	DE 1973-2335570	19730712
PRIORITY APPLN. INFO.:			CH 1972-10968	A 19720721

AB **Fluorescent whiteners** (I, R = Ph, p-NaO₃SC₆H₄, HOCH₂CH₂, NCCH₂CH₂) were prepd. and were used to **whiten** polyamide, cellulose, and wool fibers, paper, and in detergent **compns.** Thus, Na 4,4'-bis[(2-anilino-4-chloro-1,3,5-triazinyl)amino]2,2'-stilbenedisulfonate was suspended in HOCH₂CH₂OMe in the presence of NaOH and refluxed 1 hr to give **fluorescent whitener I** (R = Ph) [51568-66-2]. The other I were similarly prepd.

IT 37138-23-1 52576-51-9
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with methoxyethanol in presence of sodium hydroxide)

RN 37138-23-1 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

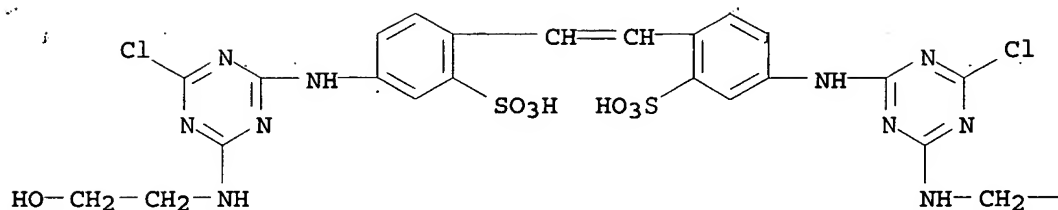


● 2 Na

RN 52576-51-9 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-[(2-hydroxyethyl)amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



● 2 Na

PAGE 1-B

—CH₂—OH

IC C07D; C08K
 CC 40-11 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)
 ST stilbene fluorescent whitener;
 triazinylaminostilbene fluorescent whitener
 IT **Fluorescent brighteners**
 (bis[[amino(methoxyethoxy)triazinyl]amino]stilbenedisulfonic acid
 derivs., for cotton, wool and polyamide fibers, detergents and
 paper)
 IT Detergents
 Paper
 Polyamide fibers
 RL: USES (Uses)
 (fluorescent brighteners for,
 bis[[amino(methoxyethoxy)triazinyl]amino]stilbenedisulfonic acid
 derivs. as)
 IT 37138-23-1 52576-49-5 52576-51-9 52576-52-0
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with methoxyethanol in presence of sodium
 hydroxide)

L40 ANSWER 21 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1974:9071 HCAPLUS
 DOCUMENT NUMBER: 80:9071
 TITLE: Stabilization of color photographs
 INVENTOR(S): Kanada, Eiji; Ueda, Bunzo
 PATENT ASSIGNEE(S): Mitsubishi Paper Mills, Ltd.
 SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

MEI HUANG EIC1700 REM4B28 571-272-3952

08/17/2006

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 48058834	A2	19730817	JP 1971-93356	197111 20
JP 54018569	B4	19790709		
PRIORITY APPLN. INFO.:			JP 1971-93356	A 197111 20

AB Color prints are stabilized with a soln. contg. (per l.) 0.1-20 g of ≥ 1 of H_2SO_3 and (or) water-sol. inorg. sulfites with a pH of 3-6. Thus, a multilayer Ag halide color printing paper contg. oil-sol. photog. couplers was exposed, developed with p-phenylenediamine developers, fixed, bleached, and hardened with HCHO . This print was then treated for 1 min in a stabilizing bath contg. NaHSO_3 20, Whitex RP 0.5, K alum 10 g, 37% HCHO 20 ml and H_2O to give 1 l., the pH being adjusted to 4 with NaOAc . The dried print was stored at 50° and 80% relative humidity for 1 month. The color fading rates (%) were 0 (cyan), 10 (magenta) and 8 (yellow) as compared to 30, 30, and 20, resp., for a print stabilized with a sulfitefree bath.

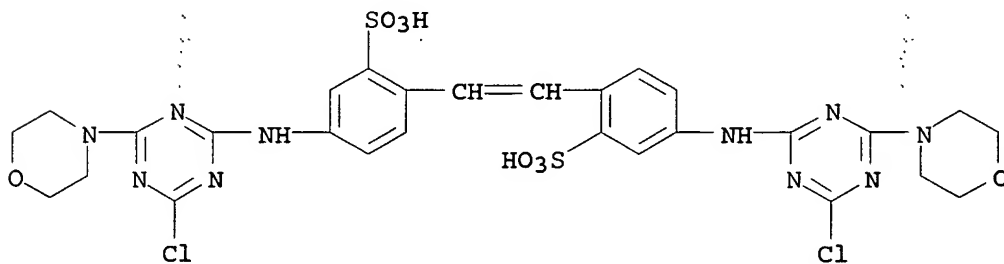
IT 28950-66-5

RL: USES (Uses)

(photog. stabilizer compns. contg.)

RN 28950-66-5 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



● 2 Na

INCL 103H0; 103F0

CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic Processes)

IT 50-00-0, uses and miscellaneous 10043-67-1 28950-66-5

RL: USES (Uses)

(photog. stabilizer compns. contg.)

IT 7631-90-5

RL: USES (Uses)

(photog. stabilizer compns. contg., for color photographs)

L40 ANSWER 22 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1970:436497 HCAPLUS
 DOCUMENT NUMBER: 73:36497
 TITLE: Softening compositions containing
 fluorescent whitening agents
 INVENTOR(S): Vincent, Patrick; Lecomte, Jacques
 PATENT ASSIGNEE(S): Melle-Bezons
 SOURCE: Fr., 9 pp.
 CODEN: FRXXAK
 DOCUMENT TYPE: Patent
 LANGUAGE: French
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 1576479		19690801	FR	196804 29

GI For diagram(s), see printed CA Issue.

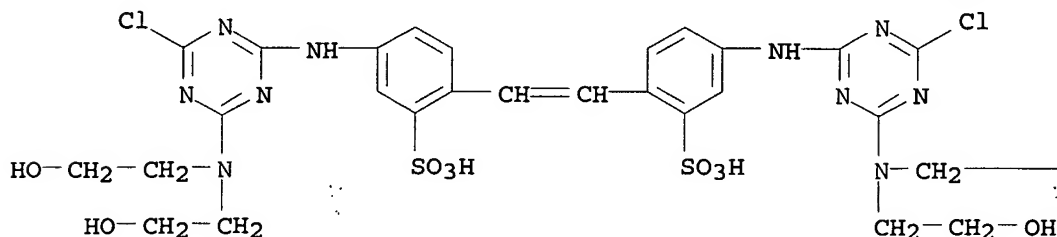
AB The title compns. contg. a quaternary ammonium compd. a triazinylaminostilbene whitener (I), and a polyvalent acid were prepd. A mixt. of 73 parts of a 75% iso-PrOH soln. of distearyldimethylammonium chloride and 5.5 parts ethoxylated (15:1) dodecylamine was heated 10 min to 60-5°. To the soln., 700 parts 60-5° hot H2O was added and, at 30-5°, followed by ethoxylated (25:1) oleocetyl alc. 5, I [R1 = morpholino, (Q), R2 = p-HO3SC6H4NH] 4, and gluconic acid 3 parts. Other acids used were H3PO4, citric acid, N(CH2CO2H)2, EDTA salts, p-MeC6H4SO3H, and sulfosuccinic acid. Other I used were (R1 and R2 given): Cl, N(CH2CH2OH)2; m-HSO3C6H4NH, m-HSO3HC6H4NH; MeO, N(CH2CH2OH)2; Q, Q; Cl, Q; MeOCH2CH2O, n(CH2CH2OH)2.

IT 4028-32-4 28950-66-5
 RL: USES (Uses)
 (fluorescent brightener, softening agents
 contg., for textiles)

RN 4028-32-4 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[bis(2-hydroxyethyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A

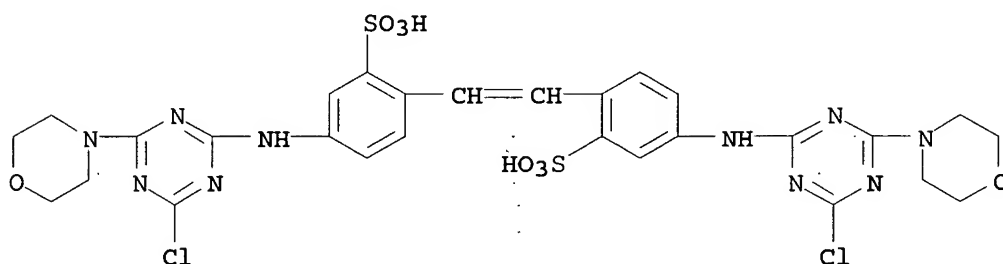


●2 Na

PAGE 1-B

—CH₂—OH

RN 28950-66-5 HCAPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



● 2 Na

IC C09B; C07D
 CC 39 (Textiles)
 ST softeners fabrics; **fluorescent whitening compns**
 IT Coconut oil
 RL: USES (Uses)
 (amines, reaction products with ethylene oxide, in softening agents contg. **fluorescent whiteners**, for textiles)
 IT Softening agents
 (for textiles, **fluorescent brightening agents** in)
 IT **Fluorescent brightening agents**
 (softening agents contg., for textiles)
 IT Oleic acid
 RL: USES (Uses)
 (mixture with cetyl alcohol, reaction products with ethylene oxide, in softening agents contg. **fluorescent whitening agents**, for textiles)
 IT Ethylene oxide
 RL: USES (Uses)
 (reaction products with fatty amines, in softening agents contg. **fluorescent whiteners**, for textiles)
 IT 4028-32-4 4470-72-8 28950-61-0 28950-63-2 28950-65-4
 28950-66-5 28950-67-6
 RL: USES (Uses)
 (**fluorescent brightener**, softening agents contg., for textiles)

IT 60-00-4, uses and miscellaneous 107-64-2 139-13-9 526-95-4
7664-38-2, uses and miscellaneous
RL: USES (Uses)
(in softening agents contg. **fluorescent
whiteners**, for textiles)

IT 36653-82-4
RL: USES (Uses)
(mixture with oleic acid, reaction products with
ethylene oxide, in softening agents contg. **fluorescent
whitening** agents, for textiles)

IT 124-22-1
RL: USES (Uses)
(reaction products with ethylene oxides, in softening agents
contg. **fluorescent whiteners**, for textiles)

L40 ANSWER 23 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1970:416308 HCAPLUS
DOCUMENT NUMBER: 73:16308
TITLE: Bis(triazinylamino)stilbene **fluorescent
whitening** agents
INVENTOR(S): Kleinheidt, Ernst A.; Gold, Heinrich
PATENT ASSIGNEE(S): Farbenfabriken Bayer A.-G.
SOURCE: Brit., 3 pp.
CODEN: BRXXAA
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
GB 1183854		19700311	GB 1967-32591	196707 14

GI For diagram(s), see printed CA Issue.

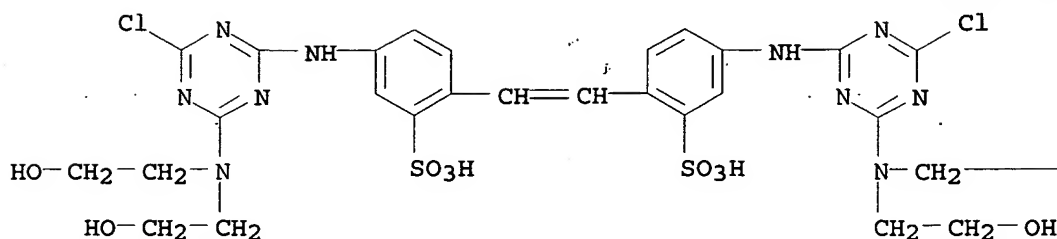
AB The title compds. (I) are prepd. from II and di-Na
4,4'-diaminostilbene - 2,2'-disulfonate (III). Thus, 45 g
(HOCH₂CH₂)₂NH in 155 ml H₂O was added to a suspension of 37 g II (R
= Cl) in 200 ml H₂O contg. 1 g n-Cl₂H₂SO(CH₂CH₂O)₅H (IV) wetting
agent, and the **mixt.** was warmed at 40° for 30 min
(pH dropped to 7) to give 45 g II [R = (HOCH₂CH₂)₂N] (V), m.
139° (MeCOEt). A **mixt.** of 25.3 g V, 18.6 g III,
and 7.6 g NaHCO₃ in 150 ml H₂O contg. 0.5 g IV was stirred at
75° for 90 min and filtered hot to give 36.5 g cryst. I [R =
(HOCH₂CH₂)₂N, R' = Cl]. Similarly, other I (R' = Cl) were prepd.
(R, % yield, II m.p., and % yield of II given): HOCH₂CH₂NMe, 95,
88°, 95; 1-pyrrolidinyl, 99, 111-12° (petroleum
ether), 87, I (R = H₂N, R' = HOCH₂CH₂NH) was prepd. from II (R =
NH₂) by reaction with III and direct treatment of the **mixt**
. with HOCH₂CH₂NH₂ for 45 min at 100°.

IT 4028-32-4P
RL: IMF (Industrial manufacture); PREP (Preparation)
(prepn. of)

RN 4028-32-4 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[bis(2-
hydroxyethyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]-, disodium
salt (9CI) (CA INDEX NAME)

PAGE 1-A



● 2 Na

PAGE 1-B

— CH₂—OH

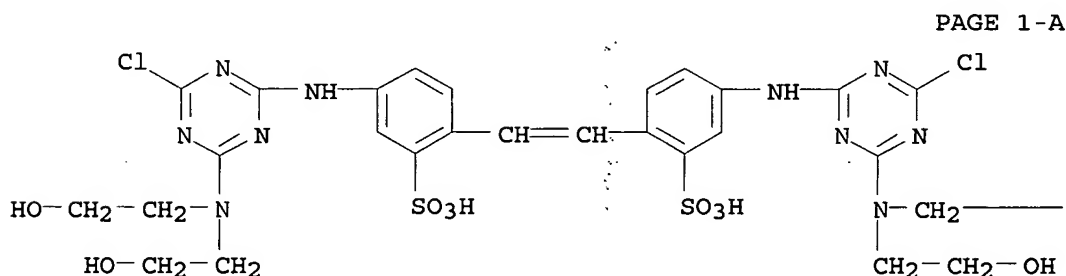
IC C07D
 CC 40 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)
 ST triazinylstilbenes; stilbenes triazinyl; optical **brighteners**
 ; **brighteners** optical
 IT **Fluorescent brightening agents**
 (bis[(aminochlorotriazinyl)amino]stilbenedisulfonic acid derivs.)
 IT 4028-32-4P 13436-79-8P 25295-51-6P 25790-73-2P
 25790-74-3P 27354-98-9P 27355-00-6P
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (prepn. of)

L40 ANSWER 24 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1970:68216 HCAPLUS
 DOCUMENT NUMBER: 72:68216
 TITLE: Bis(triazinylamino)stilbene **fluorescent**
whitening agents
 PATENT ASSIGNEE(S): Farbenfabriken Bayer A.-G.
 SOURCE: Fr., 3 pp.
 CODEN: FRXXAK
 DOCUMENT TYPE: Patent
 LANGUAGE: French
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 1533141		19680712	FR 1967-116754	19670803
DE 1670832			DE	
PRIORITY APPLN. INFO.:			DE	196703

25

- GI For diagram(s), see printed CA Issue.
- AB The title compds. (I) were prepd. by reacting 2-amino-4,6-dichloro-s-triazines with [4,2-H₂N(NaO₃S)C₆H₃CH:]₂ (II) at 70-80° in an aq. alk. soln. contg. wetting agents. When the triazine compds. are prepd. in aq. media in the absence of org. solvents, II may be added directly in a through process. I prepd. in wholly aq. media are more efficient than when prepd. in mixts. of H₂O and org. solvents. For example, a mixt. of II 18.6, 2-diethanolamino-4,6-dichloro - s-triazine (III) 25.3, NaHCO₃ 7.6, C₁₂H₂₅O(CH₂CH₂O)₅H (IV) 0.5, and H₂O 150 parts was heated at 70° for 90 min to give 36.5 parts I (R₁ = R₂ = CH₂CH₂OH). Similarly, other I were prepd. (R₁ and R₂ given): Me, CH₂CH₂OH; (NR₁R₂ =) 1-pyrrolidinyl; H, H (after-treated with H₂NCH₂CH₂O h to replace Cl). III, m. 139° (MeCOEt), was prepd. by treating cyanuric chloride with HN(CH₂CH₂OH)₂ in H₂O using IV at 35-40° and pH 7. Similarly were prepd. the 2-(N-methylethanolamino) analog, m. 88°, and the 2-(1-pyrrolidinyl) analog, m. 111-12° (petroleum ether).
- IT 4028-32-4P
RL: IMF (Industrial manufacture); PREP (Preparation)
(prepn. of)
- RN 4028-32-4 HCAPLUS
- CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[4-[bis(2-hydroxyethyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



PAGE 1-B

—CH₂—OH

- IC C09B
- CC 40 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)
- ST triazinyl amino stilbenes; stilbenes triazinyl amino; amino stilbenes triazinyl; fluorescent whiteners

triazines; whiteners fluorescent triazines

IT Fluorescent brightening agents
(bis(triazinylamino)stilbenedisulfonic acid derivs.)

IT 4028-32-4P 13436-79-8P 25295-51-6P 25790-73-2P
25790-74-3P 25790-75-4P 25790-76-5P

RL: IMF (Industrial manufacture); PREP (Preparation)
(prepn. of)

L40 ANSWER 25 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1970:62797 HCAPLUS

DOCUMENT NUMBER: 72:62797

TITLE: States of amino acid residues in proteins. XX.
Fluorescence of stilbene dyes adsorbed on
hydrophobic regions of protein molecules

AUTHOR(S): Takenaka, Osamu; Shibata, Kazuo

CORPORATE SOURCE: Tokugawa Inst. Biol. Res., Tokyo, Japan

SOURCE: Journal of Biochemistry (Tokyo, Japan) (1969),
66(6), 805-14

CODEN: JOBIAO; ISSN: 0021-924X

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Interactions of a fluorescent dye, Na 4,4'-(bis[2-chloro -
4-diethanolamino-1,3,5-triazyl - (6)])-diaminostilbene -
2,2'-disulfonate (TAS) with proteins and poly-amino acids were
studied by measuring absorption and fluorescence spectra of TAS and
the rate of photoisomerization in the presence and absence of
proteins, and adsorption of TAS on hydrophobic regions of proteins
was deduced. Both absorption and fluorescence spectra of TAS were
changed by the presence of protein. The quantum yield of the
fluorescence of TAS was increased by the presence of protein. The
rate of photoisomerization of TAS from the trans to the cis form was
decreased by protein. The fluorescence excitation spectra of
mixts. of TAS and proteins showed a band near 280 mμ.
indicating energy transfer from aromatic amino acid residues to TAS
mols. Na 4,4'-diaminostilbene - 2,2'-disulfonate, a
fluorescent stilbene, similar to TAS but without the 2
triazine rings of TAS, did not undergo such fluorescence and
absorption changes on the addn. of proteins. The hydrophobic
regions in insulin, lysozyme [EC 3.2.1.17], RNase [EC 2.7.7.16],
chymotrypsinogen, and α-chymotrypsin [EC 3.4.4.5] mols. were
studied by means of the fluorescence enhancement of TAS and, in the
case of insulin, the presence of two hydrophobic regions, one
between A and B chains and the other in the heptapeptide (B23
glycine to B29 lysine) of the B chain was deduced; the hydrophobic
interaction of TAS with the native insulin mol. was remarkably
decreased by sepn. of the insulin mol. into the A and B chains,
whereas tryptic digestion did not much affect the interaction.
Interactions of TAS with other proteins with larger mol. sizes were
increased by alkali-denaturation or by cleavage of SS bonds,
evidently by exposure of the hydrophobic regions buried in the
interior of protein mols.

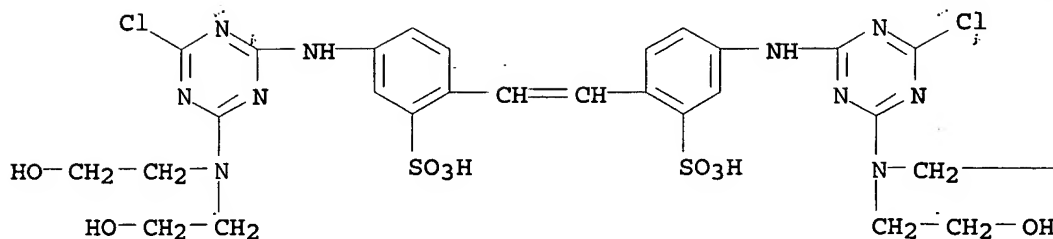
IT 4028-32-4

RL: PEP (Physical, engineering or chemical process); PROC (Process)
(adsorption of, by protein hydrophobic regions, spectrum in
relation to)

RN 4028-32-4 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[bis(2-
hydroxyethyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]-, disodium
salt (9CI) (CA INDEX NAME)

PAGE 1-A



● 2 Na

PAGE 1-B

—CH₂—OH

CC 2 (General Biochemistry)

IT 4028-32-4

RL: PEP (Physical, engineering or chemical process); PROC (Process)
 (adsorption of, by protein hydrophobic regions, spectrum in
 relation to)

L40 ANSWER 26 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1967:96163 HCAPLUS
 DOCUMENT NUMBER: 66:96163
 TITLE: Polymer bleaching
 PATENT ASSIGNEE(S): Imperial Chemical Industries Ltd.
 SOURCE: Neth. Appl., 12 pp.
 CODEN: NAXXAN
 DOCUMENT TYPE: Patent
 LANGUAGE: Dutch
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
NL 6606821		19661121	NL 1966-6821	19660518
FR 1480093			FR	
GB 1125934			GB	
PRIORITY APPLN. INFO.:			GB	19650518
			GB	196605

05

GI For diagram(s), see printed CA Issue.

AB Bleaching of polymeric materials with triazinylaminostilbene derivs. and the prepn. of liquid **compns.** contg. these derivs. is described. Thus, cyanuric chloride 66 in Me₂CO 287.5 was added with stirring to H₂O 125 and ice 336 contg. KH₂PO₄ 6, a 10% soln. (calcd. as free acid) of [2,4-NaO₃S(H₂N)C₆H₃CH:]₂ 660 contg. 50% KOH 40.5 was added immediately over 30 min., while the temp. was kept below 5° and the pH between 5 and 7, the **mixt.** stirred 20 min., diisopropylamine 47.3 parts added, the temp. raised to 40° over 30 min., the **mixt.** stirred 2 hrs. at 40° while the pH was kept between 8.0 and 8.5 and filtered, the vol. at 20° brought to 2500 parts, and 250 parts NaCl added to give I. Stirring 1 hr., filtration, and drying gave a light-yellow product. A non-dyed nylon fiber 25 was treated 45 min. at 95° in a bath 1750 contg. I 0.125 and glacial acetic acid, 0.75 part, rinsed and dried. The fiber was clearer after treatment. Addn. of 18 parts I to a **mixt.** of 3 parts diethylene glycol per 1 part of H₂O so that the final vol. is 100 parts, addn. of 1 part decolorizing C and sifting after stirring 15 min. gave a pure clear gold-yellow liquid.

IT 13281-93-1P

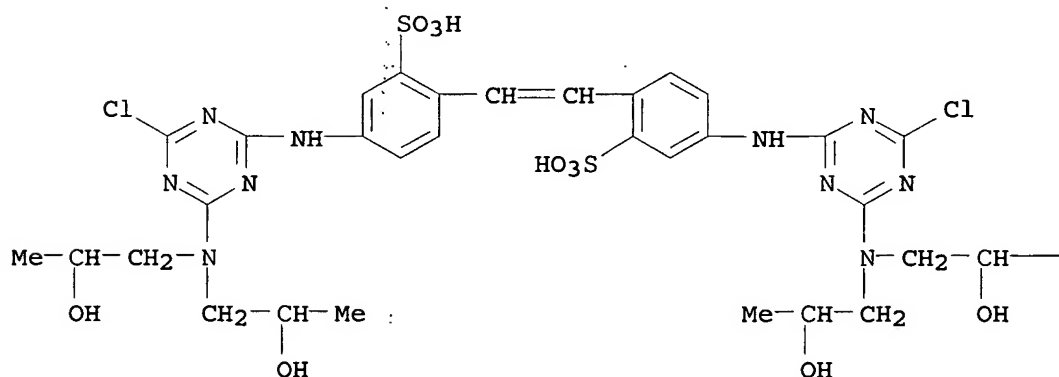
RL: PREP (Preparation)

(manuf. of, and nylon **fluorescent** bleaching with)

RN 13281-93-1 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[bis(2-hydroxypropyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



● 2 Na

PAGE 1-B

— Me

IC C07D
CC 39 (Textiles)
IT Nylon, uses and miscellaneous
Polymers, uses and miscellaneous
RL: USES (Uses)
(bleaching (**fluorescent**) of, with
triazinylaminostilbene derivs.)
IT Bleaching
(**fluorescent** or optical, of nylon and other polymers
with triazinylaminostilbene derivs.)
IT **Fluorescent brightening agents**
(triazinylaminostilbene derivs. as)
IT **13281-93-1P**
RL: PREP (Preparation)
(manuf. of, and nylon **fluorescent** bleaching with)
IT 13281-94-2P 13281-95-3P
RL: PREP (Preparation)
(manuf. of, and polymer **fluorescent** bleaching with)

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L47 ANSWER 1 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:991742 HCAPLUS

DOCUMENT NUMBER: 140:43659

TITLE: **Whitening pigments for
fluorescent whitening paper
and textile and in detergent
compositions**

INVENTOR(S): Cuesta, Fabienne; Naef, Roland; Deisenroth, Ted;
Rohringer, Peter; Grienberger, Marc Roger;
Schroeder, Serge

PATENT ASSIGNEE(S): Ciba Specialty Chemicals Holding Inc., Switz.

SOURCE: PCT Int. Appl., 31 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003104560	A1	20031218	WO 2003-EP5803	20030603

MEI HUANG EIC1700 REM4B28 571-272-3952

08/17/2006

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GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ,
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NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL,
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NE, SN, TD, TG

CA 2486589 AA 20031218 CA 2003-2486589 200306
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CN 1659339 A 20050824 CN 2003-813456 200306
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ZA 2004008888 A 20051130 ZA 2004-8888 200411
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US 2005203221 A1 20050915 US 2004-515898 200411
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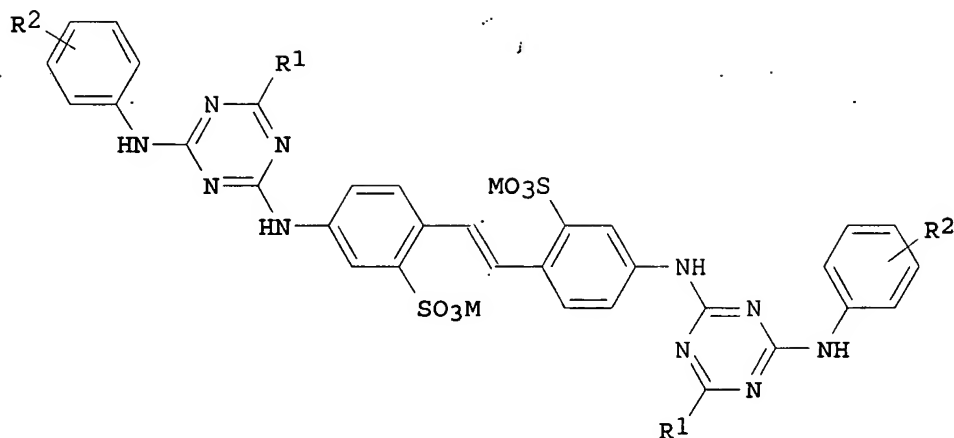
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PRIORITY APPLN. INFO.: EP 2002-405474 A 200206
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WO 2003-EP5803 W 200306
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OTHER SOURCE(S): MARPAT 140:43659
GI

MEI HUANG EIC1700 REM4B28 571-272-3952

08/17/2006



I

AB The **whitening** pigment comprises a reaction product of (a) a melamine-formaldehyde and/or a melamine-urea polycondensation product and (b) a water-sol. **fluorescent whitening agent I** (R1 = OH, -OC1-4 alkyl, -O-aryl, -NH2, -NHC1-4 alkyl, -N(C1-4 alkyl)2, -NHC2-4 hydroxyalkyl, -N(C2-4 hydroxyalkyl)2, -N(C1-4 alkyl)(C2-4 hydroxyalkyl), -NHC1-4 alkoxy-C1-4 alkyl, -N(C1-4 alkoxy-C1-4 alkyl)2, morpholino, piperidino, pyrrolidino, amino acid; R2 = -CONH2, -CONHC1-4 alkyl, -COOM, -SO2NH2, -SO2NHC1-4 alkyl; M = H, Na, K, Ca, Mg, ammonium, mono-, di-, tri- or tetra-substituted C1-4 alkylammonium, C2-4 hydroxyalkylammonium). Thus, 0.2 parts I (R1 = -N(CH3)CH2COONa; R2 = -CONH2; M = Na) was mixed with a pigment contg. 60/40 calcium carbonate 60 and clay, 0.2 parts polyvinyl alc. and 9 parts SBR binder, coated on paper and dried, showing CIE **whiteness** 107.2 and fluorescence 11.2.

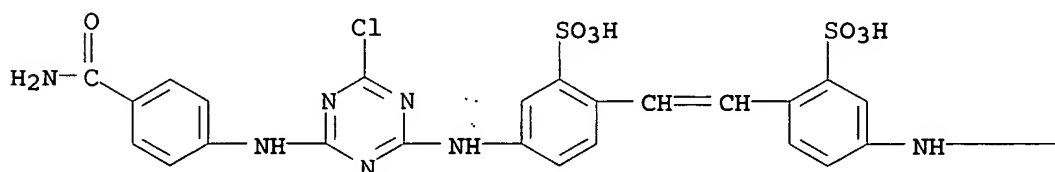
IT 634606-60-3P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent) (prepn of **whitening agent**)

RN 634606-60-3 HCAPLUS

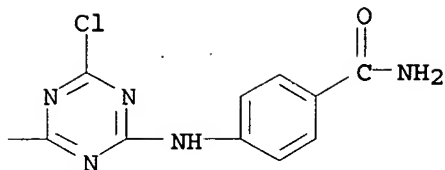
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[4-(aminocarbonyl)phenyl]amino]-6-chloro-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



● 2 Na

PAGE 1-B



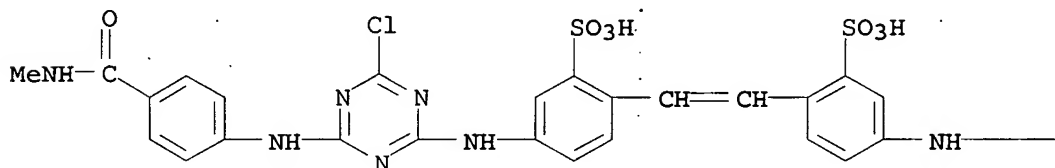
IT 203250-73-1

RL: RCT (Reactant); RACT (Reactant or reagent)
(starting material; prepn of **whitening agent**)

RN 203250-73-1 HCAPLUS

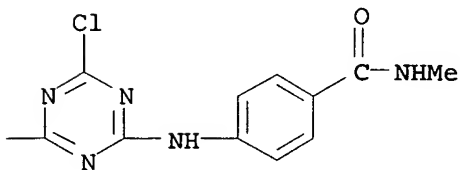
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-[[4-((methylamino)carbonyl]phenyl]amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



● 2 Na

PAGE 1-B



IC ICM D21H021-30

ICS D21H019-36; D21H017-51; C09B023-14; C09B067-24

CC 43-7 (Cellulose, Lignin, Paper, and Other Wood Products)

Section cross-reference(s): 40, 42, 46

ST **fluorescent whitening pigment paper coating**

compn; triazine aminostilbenesulfonic acid **whitening**
pigment detergent; melamine formaldehyde **whitening pigment**
textile

IT Styrene-butadiene rubber, uses

RL: POF (Polymer in formulation); TEM (Technical or engineered
material use); USES (Uses)

(paper coating; **whitening pigments for**
fluorescent whitening paper and textile and in
detergent compns.)

IT Aminoplasts

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(reaction products with **fluorescent whitening agents; whitening pigments for fluorescent whitening paper and textile and in detergent compns.**)

IT Detergents

Fluorescent brighteners

Fluorescent pigments

Paper

Textiles

(**whitening pigments for fluorescent whitening paper and textile and in detergent compns.**)

IT 634606-60-3P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(prepn of **whitening agent**)

IT 81-11-8 107-97-1, Sarcosine 108-77-0, Cyanuric chloride
617-45-8, Aspartic acid 2835-68-9 203250-73-1

RL: RCT (Reactant); RACT (Reactant or reagent)
(starting material; prepn of **whitening agent**)

IT 9003-55-8

RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)

(styrene-butadiene rubber, paper coating; **whitening pigments for fluorescent whitening paper and textile and in detergent compns.**)

IT 9003-08-1DP, Lyofix CHN, reaction products with **fluorescent whitening agents** 25036-13-9P, Formaldehyde-melamine-urea copolymer 133102-27-9DP, reaction products with melamine-formaldehyde copolymer 634606-57-8DP, reaction products with melamine-formaldehyde copolymer 634606-58-9DP, reaction products with melamine-formaldehyde copolymer 634606-59-0DP, reaction products with melamine-formaldehyde copolymer

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(**whitening pigments for fluorescent whitening paper and textile and in detergent compns.**)

REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L47 ANSWER 2 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:711060 HCAPLUS

DOCUMENT NUMBER: 139:237611

TITLE: Color photographic material and its processing
solution containing **fluorescent brightener**

INVENTOR(S): Okazaki, Kentaro; Yokokawa, Takuya; Nakai,
Yasushi

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 71 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003255482	A2	20030910	JP 2002-382502	20021227
PRIORITY APPLN. INFO.:			JP 2001-401449	A 20011228
OTHER SOURCE(S):			MARPAT 139:237611	

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

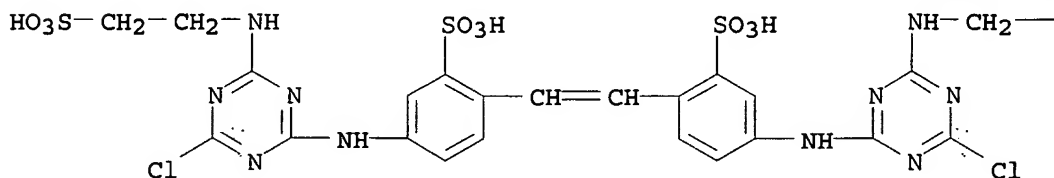
AB The material comprises (a) ≥ 1 Ag halide emulsion layer contg. a yellow, a magenta, and a cyan coupler, resp., (b) a color mixt. preventing layer, and (c) a protective layer. Silver halide grains with an area having higher AgBr and/or AgI content than other area in ≥ 1 above emulsion layer contain ≥ 1 of Ag(Br, Cl), Ag(Cl, I), and Ag(Cl, Br, I) grains with AgCl ≥ 95 mol%. It is exposed according to area converted dot image data and then processed with a soln. contg. I [R11, R12 = H, alkyl; R13, R14 = H, alkyl, aryl; R15 = alkyl (A) with ≥ 1 asym. carbon atom, $-\text{CH}_2\text{O}(\text{CH}_2\text{CH}_2\text{O})_{n11}\text{H}$; $n11 = 1-3$; R16 = A, $-(\text{CH}_2\text{CH}_2\text{O})_{n12}\text{H}$; $n12 = 2-4$; M1 = H, alkali metal, alkali earth metal, ammonium, pyridinium] and/or II [R21-24 = H, alkyl, aryl; R25, R26 = A, $-(\text{CH}_2\text{CH}_2\text{O})_{n21}\text{H}$; $n21 = 2-4$; R27, R28 = A; M2 = M1]. The method shows no d. unevenness, reduced stain of white background, and improved sharpness on rapid processing.

IT 191927-79-4P
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (prepn. of triazine deriv. fluorescent brightener)

RN 191927-79-4 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-[(2-sulfoethyl)amino]-1,3,5-triazin-2-yl]amino]-, tetrasodium salt (9CI)
 (CA INDEX NAME)

PAGE 1-A



●4 Na

PAGE 1-B

—CH₂—SO₃H

- IC ICM G03C001-035
ICS G03C001-09; G03C005-08; G03C007-392; G03C007-00
- CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
- ST silver chloride rich photog emulsion; photog paper color
mixt preventing layer; triazine **fluorescent**
brightener photog processing soln
- IT Color photographic paper
(photog. paper with color **mixt.**-preventing layer and protective layer)
- IT **Fluorescent brighteners**
Photographic processing
(photog. processing using soln. contg. triazine compd. as **fluorescent brightener**)
- IT 903-19-5
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(color **mixt.**-preventing agent; photog. paper with color **mixt.**-preventing layer and protective layer)
- IT 333459-85-1P 594845-68-8P 594845-69-9P 594845-70-2P
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(photog. processing using soln. contg. triazine compd. as **fluorescent brightener**)
- IT 68971-49-3 119729-06-5
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(photog. processing using soln. contg. triazine compd. as **fluorescent brightener**)
- IT 26464-76-6P 191927-79-4P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(prepn. of triazine deriv. **fluorescent brightener**)
- IT 81-11-8 107-35-7, Taurine 108-77-0, 2,4,6-Trichloro-1,3,5-Triazine 616-30-8 929-06-6, 2-Amino-2'-hydroxydiethyl ether 90191-92-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of triazine deriv. **fluorescent brightener**)

L47 ANSWER 3 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:594830 HCAPLUS

DOCUMENT NUMBER: 137:142076

TITLE: Preparation of 2-2'-[vinylenebis[(3-sulphonate-4,1-phenylene) imino[6-[bis(2-hydroxypropyl) amino]-1,3,5-triazine-4,2-diyl]imino]]bis(benzene-1,4-disulphonate) of hexasodium

INVENTOR(S): Comas Carceller, Jose

PATENT ASSIGNEE(S): Elaboracion De Colorantes, S.A., Spain

SOURCE: PCT Int. Appl., 22 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

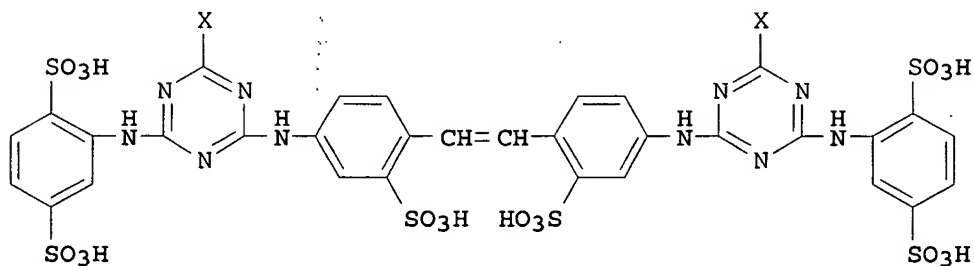
MEI HUANG EIC1700 REM4B28 571-272-3952

08/17/2006

LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002060883	A1	20020808	WO 2001-IB1920	20011015
<--				
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
ES 2189619	A1	20030701	ES 2001-202	20010130
ES 2189619	B1	20041001		
PRIORITY APPLN. INFO.:			ES 2001-202	A 20010130

GI



I

AB Product of general formula (I) in which X = diisopropanolamine group, the method for making which comprises three successive phases of condensation, under certain pH conditions. Said product has an improved **whitening** effect on paper, as it does not present the satn. problems characteristic of other known products and has other possible uses in coating mixts. that contain an appreciable quantity of starch or CM-cellulose, and in the **whitening** of cellulosic fiber garments in the textile industry.

IT 445016-61-5P

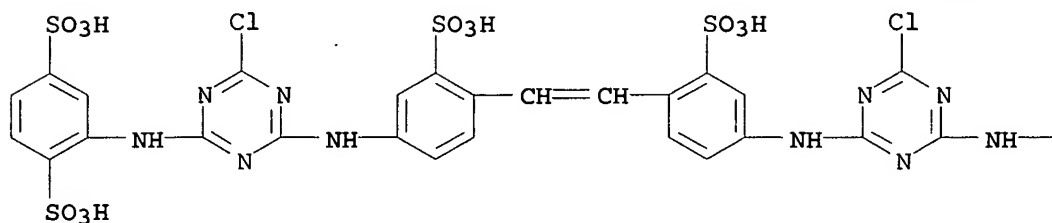
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(prepn. of 2-2'-[vinylenebis[(3-sulfonate-4,1-phenylene)
imino[6-[bis(2-hydroxypropyl)amino]-1,3,5-triazine-4,2-
diyl]imino]]bis(benzene-1,4-disulfonate) of hexasodium)

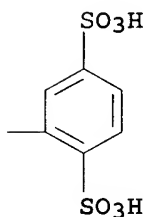
RN 445016-61-5 HCAPLUS

CN 1,4-Benzenedisulfonic acid, 2,2'-[1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino(6-chloro-1,3,5-triazine-4,2-diyl)imino]]bis- (9CI)
(CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IC ICM C07D251-68

ICS D06L003-12; D21H021-30; C08K005-42

CC 43-7 (Cellulose, Lignin, Paper, and Other Wood Products)

Section cross-reference(s): 40, 42

ST whitening bleaching agent paper fiber textile garment

IT 17752-51-1P 445016-61-5P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP

(Preparation); RACT (Reactant or reagent)

(prepn. of 2-2'-[vinylenebis[(3-sulfonate-4,1-phenylene)

imino[6-[bis(2-hydroxypropyl)amino]-1,3,5-triazine-4,2-

diyl]imino]]bis(benzene-1,4-disulfonate) of hexasodium)

REFERENCE COUNT:

5

THERE ARE 5 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN
THE RE FORMAT

L47 ANSWER 4 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:539669 HCAPLUS

DOCUMENT NUMBER: 137:95166

TITLE: Preparation of 4,4'-bis(triazinylamino)-stilbene-
2,2'-disulfonic acid compounds

INVENTOR(S): Metzger, Georges; Reinehr, Dieter; Sauter,
Hanspeter; Dbaly, Helena

PATENT ASSIGNEE(S): Ciba Specialty Chemicals Holding Inc., Switz.

SOURCE: PCT Int. Appl., 14 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

MEI HUANG EIC1700 REM4B28 571-272-3952

08/17/2006

PATENT INFORMATION:

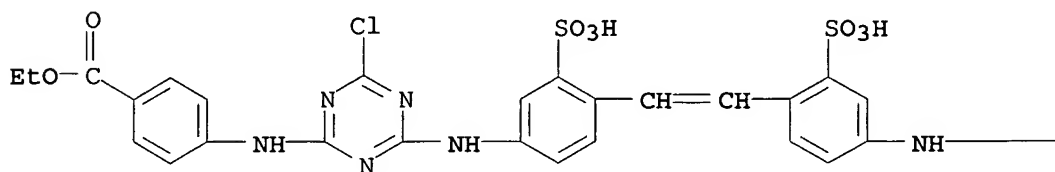
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002055509	A1	20020718	WO 2002-EP70	20020107
<p>W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM</p> <p>RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG</p>				
EP 1358166	A1	20031105	EP 2002-715396	20020107
<p>R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR</p>				
BR 2002006398	A	20040210	BR 2002-6398	20020107
JP 2004517139	T2	20040610	JP 2002-556179	20020107
US 2004063706	A1	20040401	US 2003-250843	20030707
<p>PRIORITY APPLN. INFO.: EP 2001-810028 A 20010112</p> <p>WO 2002-EP70 W 20020107</p>				
<p>OTHER SOURCE(S): CASREACT 137:95166; MARPAT 137:95166</p> <p>GI</p>				

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB 4,4'-Bis(triazinylamino)-stilbene-2,2'-disulfonic acid compd. I (R1 = amino, alkylamino, (un)substituted hydroxyalkylamino, (un)substituted hydroxyalkylalkylamino, cycloalkylamino, arylamino, aralkylamino, morpholino, piperidino, pyrrolidino residue; M = H, Na, Li, K, Ca, Mg, (un)substituted ammonium) is prepd. by reacting a compd. II (R2 = (un)substituted C1-10 alkyl; X = halogen) with

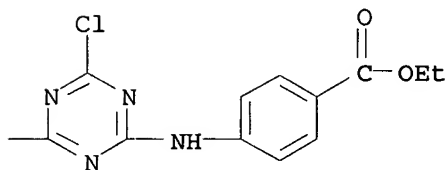
IT ≥ 4 mol amine R1H or its mixt.
 175391-29-4
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (prepn. of 4,4'-bis(triazinylamino)-stilbene-2,2'-disulfonic acid
 compds.)
 RN 175391-29-4 HCAPLUS
 CN Benzoic acid, 4,4'-[1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino(6-
 chloro-1,3,5-triazine-4,2-diyl)imino]]bis-, 1,1'-diethyl ester,
 disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



● 2 Na

PAGE 1-B



IC ICM C07D251-68
 CC 41-10 (Dyes, Organic Pigments, Fluorescent Brighteners, and
 Photographic Sensitizers)
 Section cross-reference(s): 28
 IT **Fluorescent brighteners**
 (prepn. of 4,4'-bis(triazinylamino)-stilbene-2,2'-disulfonic acid
 compds.)
 IT 74-89-5, Methylamine, reactions 141-43-5, Ethanolamine, reactions
 175391-29-4
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (prepn. of 4,4'-bis(triazinylamino)-stilbene-2,2'-disulfonic acid
 compds.)
 REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN
 THE RE FORMAT

L47 ANSWER 5 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2000:553675 HCAPLUS

DOCUMENT NUMBER: 133:151986

TITLE: **Fluorescent brightener, its
production and its use**

INVENTOR(S): Baker, Richard Leon

PATENT ASSIGNEE(S): Ciba Specialty Chemicals Holding Inc., Switz.

SOURCE: PCT Int. Appl., 22 pp.

MEI HUANG EIC1700 REM4B28 571-272-3952

08/17/2006

DOCUMENT TYPE: CODEN: PIXXD2
 LANGUAGE: Patent
 FAMILY ACC. NUM. COUNT: English
 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000046336	A1	20000810	WO 2000-EP732	20000131
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 6165973	A	20001226	US 2000-493341	20000128
NZ 513712	A	20010928	NZ 2000-513712	20000131
EP 1149147	A1	20011031	EP 2000-907489	20000131
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
BR 2000008011	A	20011120	BR 2000-8011	20000131
JP 2002536501	T2	20021029	JP 2000-597398	20000131
AU 768659	B2	20031218	AU 2000-29058	20000131
PRIORITY APPLN. INFO.: US 1999-118821P P 19990205				
WO 2000-EP732 W 20000131				
OTHER SOURCE(S): MARPAT 133:151986 GI				

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB A fluorescent brightener is obtained which is a mixt. of I, II, and III (-SO₃R groups are in the meta and/or para position, and wherein R and M are H, Na, Li, K, Ca, Mg, ammonium, or ammonium that is mono-, di-, tri- or tetra-substituted by C1-C4alkyl, C1-C4-hydroxyalkyl or a mixt. thereof) and useful for textiles and paper. The mixt. is produced from cyanuric chloride and 4,4'-diamino-2,2'-stilbenedisulfonic acid followed by a mixt. of diethanolamine and diisopropanolamine and finally sulfanilic and/or metanilic acid.

IT 287728-12-5P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(intermediate; prodn. of stilbenedisulfonic acid triazine deriv. fluorescent brightener mixts.)

RN 287728-12-5 HCAPLUS

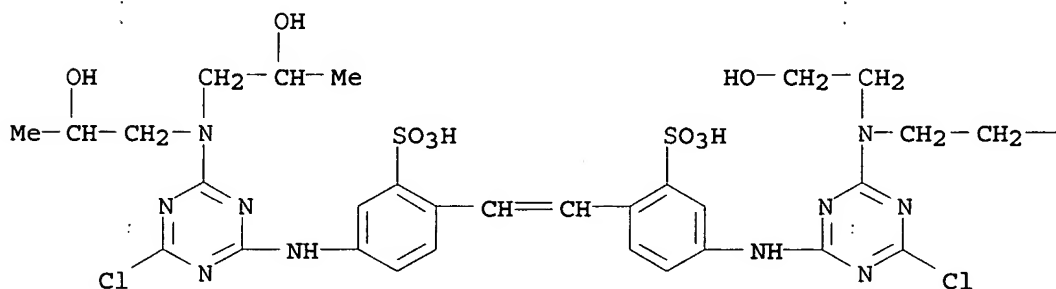
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[bis(2-hydroxyethyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]-, mixt. with 5-[[4-[bis(2-hydroxyethyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]-2-[2-[4-[[4-[bis(2-hydroxypropyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]-2-sulfophenyl]ethenyl]benzenesulfonic acid and 2,2'-(1,2-ethenediyl)bis[5-[[4-[bis(2-hydroxypropyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]benzenesulfonic acid] (9CI) (CA INDEX NAME)

CM 1

CRN 287728-11-4

CMF C30 H36 Cl2 N10 O10 S2

PAGE 1-A



PAGE 1-B

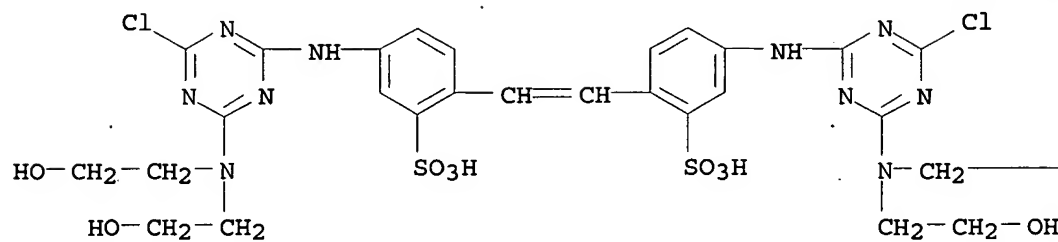
—OH

CM 2

CRN 50570-59-7

CMF C28 H32 Cl2 N10 O10 S2

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PAGE 1-B

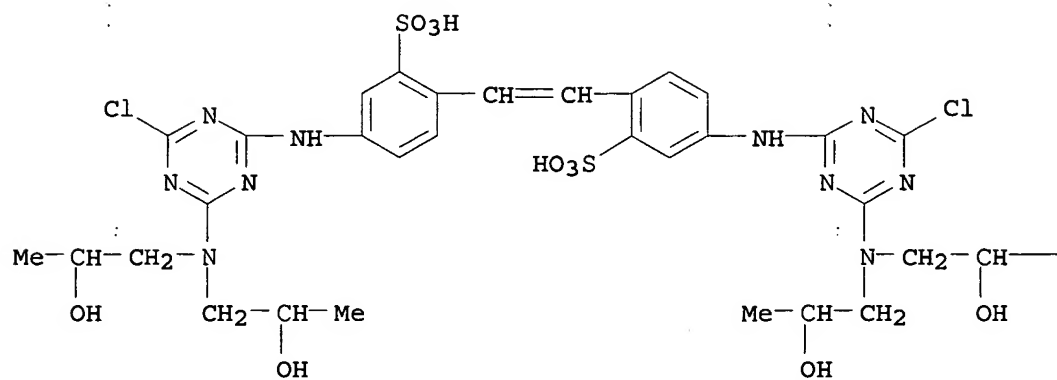
—CH₂—OH

CM 3

CRN 23612-96-6

CMF C32 H40 Cl2 N10 O10 S2

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PAGE 1-B

— Me

IC ICM C11D003-42
ICS C07D251-68; D06L003-12; D21H021-30

CC 41-10 (Dyes, Organic Pigments, Fluorescent Brighteners, and
Photographic Sensitizers)
Section cross-reference(s): 40, 46

ST **fluorescent brightener** prodn stilbenedisulfonic
triazine deriv

IT Bleaching agents
(contg. stilbenedisulfonic acid triazine deriv.
fluorescent brightener mixts.)

IT Detergents
(laundry; contg. stilbenedisulfonic acid triazine deriv.
fluorescent brightener mixts.)

IT **Fluorescent brighteners**
(prodn. of stilbenedisulfonic acid triazine deriv.
fluorescent brightener mixts.)

IT 287734-48-9P
RL: IMF (Industrial manufacture); TEM (Technical or engineered
material use); PREP (Preparation); USES (Uses)
(**brightener**; prodn. of stilbenedisulfonic acid triazine
deriv. **fluorescent brightener mixts**
)

IT 102-71-6, reactions 1305-62-0, Calcium hydroxide, reactions
1305-78-8, Calcium oxide, reactions 1309-42-8, Magnesium hydroxide
1309-48-4, Magnesium oxide, reactions 1310-58-3, Potassium
hydroxide, reactions 1310-65-2, Lithium hydroxide 1310-73-2,
Sodium hydroxide, reactions 7664-41-7, Ammonia, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(in prodn. of stilbenedisulfonic acid triazine deriv.
fluorescent brightener mixts.)

IT 287728-12-5P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP
(Preparation); RACT (Reactant or reagent)
(intermediate; prodn. of stilbenedisulfonic acid triazine deriv.
fluorescent brightener mixts.)

IT 81-11-8, 4,4'-Diamino-2,2'-stilbenedisulfonic acid 108-77-0
110-97-4, Diisopropanolamine 111-42-2, reactions 121-47-1,
Metanilic acid 121-57-3, Sulfanilic acid
RL: RCT (Reactant); RACT (Reactant or reagent)
(starting material; prodn. of stilbenedisulfonic acid triazine
deriv. **fluorescent brightener mixts**
)

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN
THE RE FORMAT

L47 ANSWER 6 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1998:558915 HCAPLUS
 DOCUMENT NUMBER: 129:204141
 TITLE: Manufacture of N,N'-disubstituted
 4,4'-diaminostilbene-2,2'-disulfonic acids and
 brightening of polyamides, cellulose,
 and paper therewith
 INVENTOR(S): Feldhues, Ulrich; Brockmann, Rolf; Eckstein,
 Udo; Stamis, Detlef
 PATENT ASSIGNEE(S): Bayer A.-G., Germany
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10226680	A2	19980825	JP 1998-46368	199802 13
DE 19706238	A1	19980827	DE 1997-19706238	199702 18
DE 19706238	B4	20050901		
EP 860437	A1	19980826	EP 1998-101951	199802 05
EP 860437	B1	20021030		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
ES 2185069	T3	20030416	ES 1998-101951	199802 05
US 6025490	A	20000215	US 1998-22337	199802 11
PRIORITY APPLN. INFO.:			DE 1997-19706238	199702 18

OTHER SOURCE(S): MARPAT 129:204141
 AB 4,4'-Diaminostilbene-2,2'-disulfonic acid (I) N,N'-disubstituted by
 4-[(SO₃M)_n-substituted anilino]-6-X-1,3,5-triazin-2-yl groups or its
 alkali metal and/or (un)substituted ammonium salts [n = 0-2; M = H,
 alkali metal, (un)substituted ammonium; X = anilino, N-alkylamino,
 N,N-dialkylamino, where the alkyl groups may contain O, N, and/or S
 and N,N-dialkylamino group may form satd. 5- or 6-membered
 heterocyclic ring] are manufd. by reaction of the compds. with X =
 Cl and XH at pH 5-10 in the presence or absence of acid scavengers
 other than XH, where the compds. are added to aq. media at
 ≥40° and XH and optionally the scavengers are added
 sep. to the media before, with, and/or after addn. of the compds.

Thus, adding dropwise an aq. soln. of 0.3 mol I disodium salt and Na₂CO₃ to an aq. soln. contg. NaCl, ethylene oxide-propylene oxide copolymer isodecyl ether, and 0.542 mol cyanuric chloride, further adding an aq. soln. of 0.664 mol diethanolamine to the mixt., further adding an aq. soln. of 0.528 mol Na sulfanilate to the mixt., adding the resulting mixt. to H₂O at 95° and pH 7.5, and heating gave a crude soln. contg. a product [X = N(CH₂CH₂OH)₂; M = Na; n = 1].

IT 142050-95-1

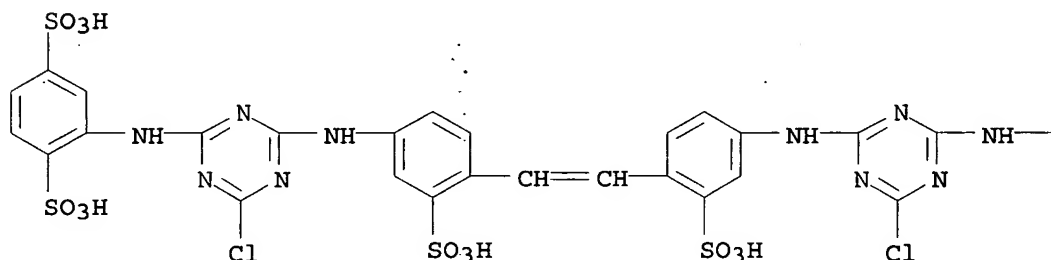
RL: RCT (Reactant); RACT (Reactant or reagent)

(manuf. of N,N'-disubstituted diaminostilbenedisulfonic acids for brightening of polyamides, cellulose, and paper)

RN 142050-95-1 HCAPLUS

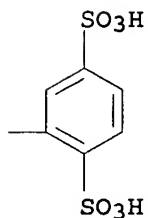
CN 1,4-Benzenedisulfonic acid, 2,2'-[1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino(6-chloro-1,3,5-triazine-4,2-diyl)imino]]bis-, hexasodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



● 6 Na

PAGE 1-B



IC ICM C07D251-68

ICS C09B057-00; D21H019-16

CC 41-10 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)

Section cross-reference(s): 43

ST anilindiethanolamino triazinylamino stilbenesulfonate brightener manuf

IT Fluorescent brighteners
Paper

(manuf. of N,N'-disubstituted diaminostilbenedisulfonic acids for brightening of polyamides, cellulose, and paper)

IT Polyamides, miscellaneous

RL: MSC (Miscellaneous)

- (manuf. of N,N'-disubstituted diaminostilbenedisulfonic acids for **brightening** of polyamides, cellulose, and paper)
- IT 497-19-8, Sodium carbonate, reactions 1310-73-2, Sodium hydroxide, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(acid scavenger; manuf. of N,N'-disubstituted diaminostilbenedisulfonic acids for **brightening** of polyamides, cellulose, and paper)
- IT 4404-43-7P 16090-02-1P 16470-24-9P 31900-04-6P 68971-49-3P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manuf. of N,N'-disubstituted diaminostilbenedisulfonic acids for **brightening** of polyamides, cellulose, and paper)
- IT 9004-34-6, Cellulose, miscellaneous
RL: MSC (Miscellaneous)
(manuf. of N,N'-disubstituted diaminostilbenedisulfonic acids for **brightening** of polyamides, cellulose, and paper)
- IT 62-53-3, Aniline, reactions 74-89-5, Methylamine, reactions 108-77-0, Cyanuric chloride 110-91-8, Morpholine, reactions 111-42-2, Diethanolamine, reactions 515-74-2, Sodium sulfanilate 7336-20-1, 4,4'-Diaminostilbene-2,2'-disulfonic acid disodium salt 142050-95-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(manuf. of N,N'-disubstituted diaminostilbenedisulfonic acids for **brightening** of polyamides, cellulose, and paper)

L47 ANSWER 7 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1995:787200 HCAPLUS

DOCUMENT NUMBER: 123:172636

TITLE: Manufacture of derivatives of
4,4'-bis[4-(2,5-disulfoanilino)-2-s-
triazinylamino]stilbene-2,2'-disulfonic acid for
optical **brighteners** for paper

INVENTOR(S): Zwierzynski, Krzysztof; Tarwacki, Andrzej;
Higersberger, Ewa; Malasnicki, Wladyslaw L.;
Rudzinska, Benita; Kalinowski, Jan; Guzewska,
Teresa; Intek, Wieslaw

PATENT ASSIGNEE(S): Instytut Przemyslu Organicznego, Pol.

SOURCE: Pol., 6 pp.

CODEN: POXXA7

DOCUMENT TYPE: Patent

LANGUAGE: Polish

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PL 163456	B1	19940331	PL 1991-290136	19910506

PRIORITY APPLN. INFO.: <--
PL 1991-290136

19910506

OTHER SOURCE(S): CASREACT 123:172636; MARPAT 123:172636

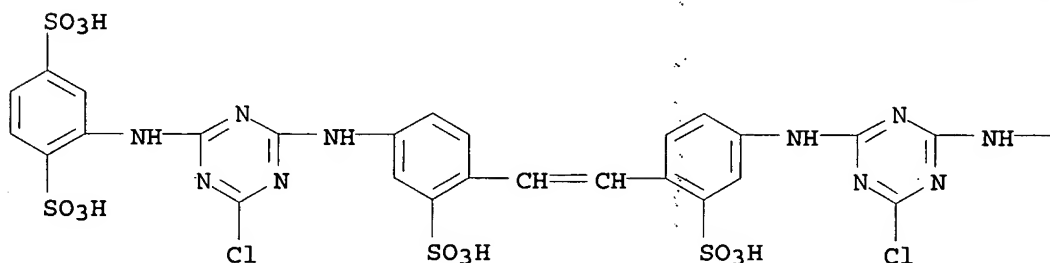
GI For diagram(s), see printed CA Issue.

AB Synergistic mixts. of triazine derivs. I [X =
diethanolamino, morpholino, or diethylamino, X1 =

(2-cyanoethyl)(2-hydroxyethyl)amino, M = Na or H], triazine deriv. I (X = X1 = (2-cyanoethyl)(2-hydroxyethyl)amino, M = Na or H), and triazine derivs. I (X, X1 = diethanolamino, morpholino, or diethylamino, M = Na or H) for the title use are manufd. by reacting cyanuric chloride (II) with 2,5-disodiosulfoaniline (III) at III-II mol ratio (0.9-1.1):1, -5 to +40°, and pH 0.5-6.0 in water, reacting the resulting intermediate without purifn. with di-Na 4,4'-diaminostilbene-2,2'-disulfonate(IV) at IV-II mol ratio (0.35-0.50):1, 10-70°, and pH 2.5-8.0 in water, and reacting the 2nd intermediate without purifn. with N-(2-cyanoethyl)ethanolamine (V) and diethanolamine, morpholine, or Et2N at amine-II mol ratio (1.0-1.2):1, V-other amine mol ratio 1:(0.1-9.0), and 90-101°, raising the pH to 3-13, removing the water by distn., and optionally decreasing the pH to ≤5.

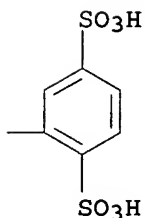
IT 142050-95-1DP, reaction products with (cyanoethyl)ethanolamine and secondary amines
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (manuf. of mixts. of derivs. of bis[(disulfoanilino)triazinylamino]stilbenedisulfonic acid for optical brighteners for paper)
 RN 142050-95-1 HCAPLUS
 CN 1,4-Benzenedisulfonic acid, 2,2'-[1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino(6-chloro-1,3,5-triazine-4,2-diyl)imino]]bis-, hexasodium salt (9CI) (CA INDEX NAME).

PAGE 1-A



●6 Na

PAGE 1-B



IC ICM C07D251-68
 CC 41-10 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)
 Section cross-reference(s): 43

MEI HUANG EIC1700 REM4B28 571-272-3952

08/17/2006

ST sulfoanilino triazinylamino stilbenedisulfonate deriv optical
brightener; ethylamino triazinylaminostilbene deriv optical
brightener; morpholino triazinylaminostilbene deriv optical
brightener; ethanolamino triazinylaminostilbene deriv
optical **brightener**; cyanoethylethanolamino
triazinylaminostilbene deriv optical **brightener**; paper
optical **brightener** triazinylaminostilbene deriv

IT **Fluorescent brighteners**
(manuf. of mixts. of derivs. of
bis[(disulfoanilino)triazinylamino]stilbenedisulfonic acid for
optical **brighteners** for paper)

IT 17752-68-0P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP
(Preparation); RACT (Reactant or reagent)
(intermediate; manuf. of mixts. of derivs. of
bis[(disulfoanilino)triazinylamino]stilbenedisulfonic acid for
optical **brighteners** for paper)

IT 109-89-7DP, Diethylamine, reaction products with hexasodium
bis[(disulfoanilino)triazinylamino]stilbenedisulfonate 110-91-8DP,
Morpholine, reaction products with hexasodium
bis[(disulfoanilino)triazinylamino]stilbenedisulfonate 111-42-2DP,
Diethanolamine, reaction products with hexasodium
bis[(disulfoanilino)triazinylamino]stilbenedisulfonate
33759-44-3DP, N-(2-Cyanoethyl)ethanolamine, reaction products with
hexasodium bis[(disulfoanilino)triazinylamino]stilbenedisulfonate
142050-95-1DP, reaction products with
(cyanoethyl)ethanolamine and secondary amines
RL: IMF (Industrial manufacture); TEM (Technical or engineered
material use); PREP (Preparation); USES (Uses)
(manuf. of mixts. of derivs. of
bis[(disulfoanilino)triazinylamino]stilbenedisulfonic acid for
optical **brighteners** for paper)

IT 108-77-0, Cyanuric chloride 7336-20-1, Disodium
4,4'-diaminostilbene-2,2'-disulfonate 41184-20-7,
2,5-Disodiosulfoaniline
RL: RCT (Reactant); RACT (Reactant or reagent)
(precursor; manuf. of mixts. of derivs. of
bis[(disulfoanilino)triazinylamino]stilbenedisulfonic acid for
optical **brighteners** for paper)

L47 ANSWER 8 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1995:511678 HCAPLUS
DOCUMENT NUMBER: 122:252037
TITLE: Ballasted optical **brighteners**
INVENTOR(S): Adin, Anthony; Bagchi, Pranab
PATENT ASSIGNEE(S): Eastman Kodak Company, USA
SOURCE: U.S., 9 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5395748	A	19950307	US 1993-164091	199312 08

EP 662634 A1 19950712 EP 1994-119241

199412
06

EP 662634 B1 19980819
R: BE, CH, DE, FR, GB, IT, LI, NL
JP 07207174 A2 19950808 JP 1994-303695

199412
07

PRIORITY APPLN. INFO.:

US 1993-164091

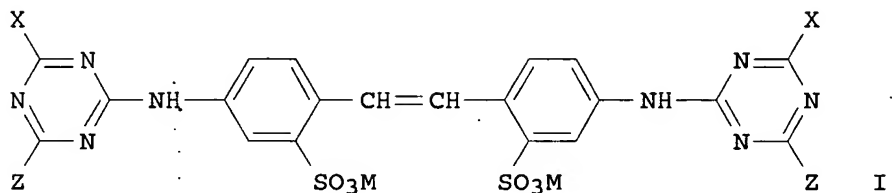
A

199312
08

OTHER SOURCE(S):

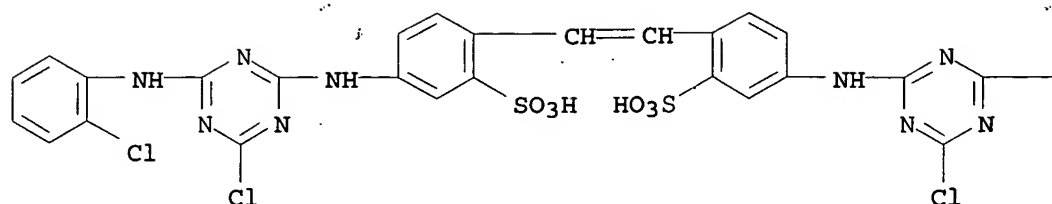
MARPAT 122:252037

GI



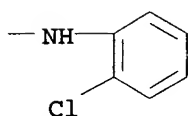
- AB An inexpensive, ballasted optical **brightener** for use in photog. elements is prepd. by reacting an optical **brightener** I [M is a cation; X is a group capable of undergoing nucleophilic displacement; and Z is -N(R2)R1 or -OR3, where each of R1 and R2 is a H atom, or an arom. group which can be unsubstituted or substituted with ≥ 1 groups unreactive towards X; and R3 is an arom. group which can be unsubstituted or substituted with ≥ 1 groups unreactive towards X with a H2O sol. polymer, such as gelatin]. The resulting ballasted optical **brightener** is stable in aq. photog. **comps.**
- IT 156645-26-0D, gelatin-grafted
RL: DEV (Device component use); USES (Uses)
(optical **brightener** for photog. material)
- RN 156645-26-0 HCAPLUS
- CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-[(2-chlorophenyl)amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI)
(CA INDEX NAME)

PAGE 1-A



●2 Na

PAGE 1-B



IC ICM G03C001-815
 INCL 430512000
 CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 ST ballasted optical **brightener** photog paper; gelatin grafted optical **brightener**
 IT Photographic paper
 (gelatin grafted optical **brightener**)
 IT **Fluorescent brighteners**
 (gelatin grafted; for photog. material)
 IT Gelatins, uses
 RL: DEV (Device component use); USES (Uses)
 (optical **brightener** grafted with; photog. material)
 IT **156645-26-0D**, gelatin-grafted
 RL: DEV (Device component use); USES (Uses)
 (optical **brightener** for photog. material)

L47 ANSWER 9 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1994:10315 HCAPLUS

DOCUMENT NUMBER: 120:10315

TITLE: Reactive dye **compositions** and dyeing cellulosic fibers using the same

INVENTOR(S): Kotani, Junji; Tabei, Tatsu; Ogawa, Eiichi

PATENT ASSIGNEE(S): Nippon Kayaku Kk, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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MEI HUANG EIC1700 REM4B28 571-272-3952

08/17/2006

JP 05070706

A2

19930323

JP 1991-260520

199109
12

JP 2957034

B2

19991004

JP 1991-260520

PRIORITY APPLN. INFO.:

199109
12

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The title **compns.** providing dyeing with good chlorinated water fastness and reproducibility contain dyes of free-acid form I and II (R = C1-4 alkyl, alkoxyalkyl; R1, R2 = H, Cl; X, Y = H, sulfo; Z = Me, carboxy). Cotton was level dyed **bright greenish yellow** with 1:1 **mixt.** of I (R1 = R2 = H; 4-SO3H; Z = carboxy) and II (R = Et; X = Y = H).

IT 84434-56-0

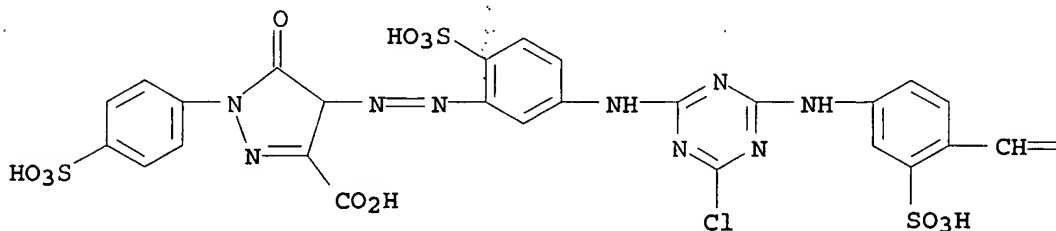
RL: USES (Uses)

(dye **mixts.** contg., for cotton)

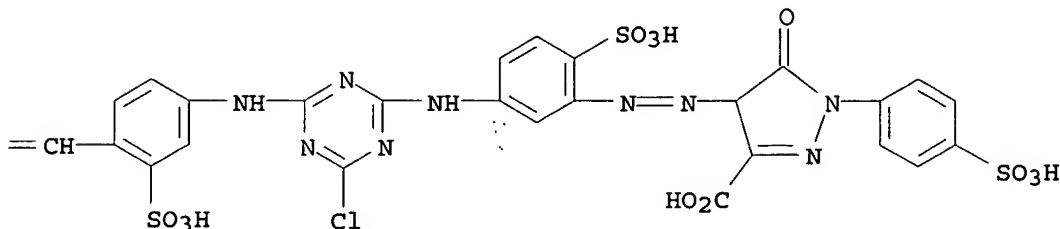
RN 84434-56-0 HCAPLUS

CN 1H-Pyrazole-3-carboxylic acid, 4,4'-[1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino(6-chloro-1,3,5-triazine-4,2-diyl)imino(6-sulfo-3,1-phenylene)azo]]bis[4,5-dihydro-5-oxo-1-(4-sulfo-phenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IC ICM C09B067-22

ICS D06P001-382; D06P003-66; D06P003-87

CC 40-6 (Textiles and Fibers)

MEI HUANG EIC1700 REM4B28 571-272-3952

08/17/2006

Section cross-reference(s): 41

ST reactive azo dye mixt cotton

IT 84434-56-0 91754-67-5

RL: USES (Uses)

(dye mixts. contg., for cotton)

L47 ANSWER 10 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1989:498857 HCAPLUS

DOCUMENT NUMBER: 111:98857

TITLE: Development and application of KE-type reactive dyes

AUTHOR(S): Yang, Junhao

CORPORATE SOURCE: Shanghai Dyeing No. 8 Plant, Shanghai, Peop.
Rep. China

SOURCE: Fangzhi Xuebao (1989), 10(1), 41-3

CODEN: FCHPDI; ISSN: 0253-9721

DOCUMENT TYPE: Journal

LANGUAGE: Chinese

AB The dyeing of cotton and cotton-polyester blends with C.I. Reactive Bright Yellow KE-3G, C.I. Reactive Yellow KE-4R, C.I. Reactive Red KE-3B, C.I. Reactive Red KE-7B, and C.I. Reactive Deep Blue KE-R was reported. Excellent results were obtained for cotton fabrics dyed with these dyes.

IT 59917-87-2

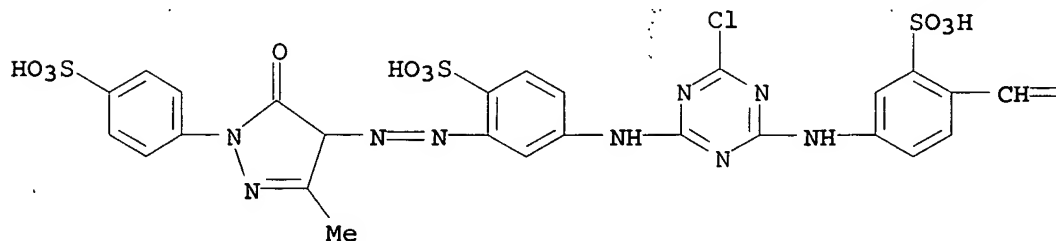
RL: USES (Uses)

(dyes, for cotton and cotton-polyester blends)

RN 59917-87-2 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-[[3-[[4,5-dihydro-3-methyl-5-oxo-1-(4-sulfophenyl)-1H-pyrazol-4-yl]azo]-4-sulfophenyl]amino]-1,3,5-triazin-2-yl]amino]-, hexasodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



● 6 Na

OS(=O)(=O)c1ccc(cc1)C(=O)Nc2ccccc2

IT Dyeing

IT 59917-87-2 61951-85-7, Yellow KE 4R 68214-04-0

122268-23-9 122392-54-5, Red KE 7B

RL: USES (Uses)

(dyes, for cotton and cotton-polyester blends)

ACCESSION NUMBER: 1984:53209 HCAPLUS

DOCUMENT NUMBER: 100:53209

TITLE: Optical whitener of the
 bistriazinylaminostilbene series

INVENTOR(S): Domide, Aneta; Saidac, Serban; Mihiş, Ana
Bianca; Prejmereanu, Ioan; Stoenescu, Caterina;
Bondric, Constantin

PATENT ASSIGNEE(S): Intreprinderea de Medicamente si Coloranti
"Sintofarm", Rom.

SOURCE: Rom., 2 pp. Addn. to Rom. 62,947.

CODEN: RUXXA3

DOCUMENT TYPE: Patent

LANGUAGE: Romanian

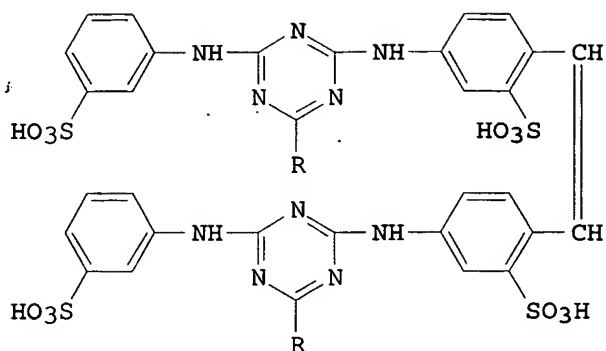
FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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RO 77400	M	19811104	RO 1979-97774	19790609
			<--	
RO 62947	B	19780515	RO 1974-77183	19740103
			<--	
PRIORITY APPLN. INFO.:			RO 1974-77183	A 19740103
			<--	

GI



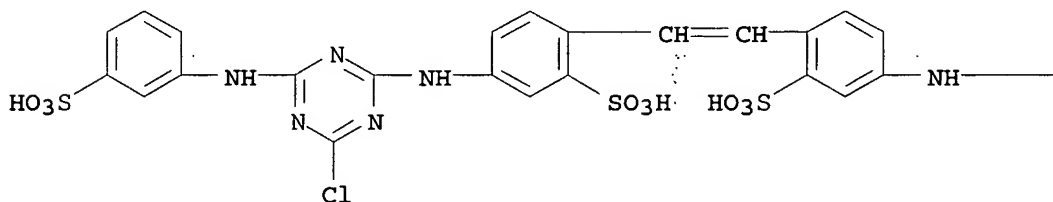
AB **Fluorescent brightener I** [R = N(CH₂CH₂OH)₂]
 [5131-70-4] is manufd. by reaction of 1 mol I(R = Cl) (II) [88466-02-8] as an aq. paste with 2-2.04 mol diethanolamine [111-42-2] at reflux for 1 h, followed by dilg., pptg. with 25% (based on reaction-mixt. vol.) NaCl, redissolving, spray-drying, and mixing with 300 kg Na₂SO₄/mol cyanuric chloride used to prep. II or by dilg., mixing with Na₂SO₄, and spray-drying.

IT 88466-02-8
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with diethanolamine)

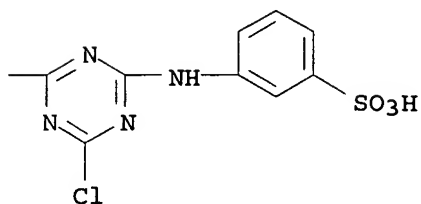
RN 88466-02-8 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-[(3-sulphophenyl)amino]-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IC C09B027-02

CC 41-10 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)
 Section cross-reference(s): 25, 28

ST triazinylaminostilbene deriv **fluorescent brightener**; diethanolamine reaction

bischlorotriazinylaminostilbene deriv; amination
bischlorotriazinylaminostilbene deriv; stilbene fluorescent
brightener manuf

IT **Fluorescent brighteners**

(bis[[bis(hydroxyethyl)amino](sulfoanilino)triazinylamino]stilben
edisulfonic acid, manuf. of)

IT 88466-02-8

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with diethanolamine)

L47 ANSWER 12 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1983:35526 HCAPLUS

DOCUMENT NUMBER: 98:35526

TITLE: **Fluorescent brightener
compositions**

PATENT ASSIGNEE(S): Showa Chemical Industries, Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

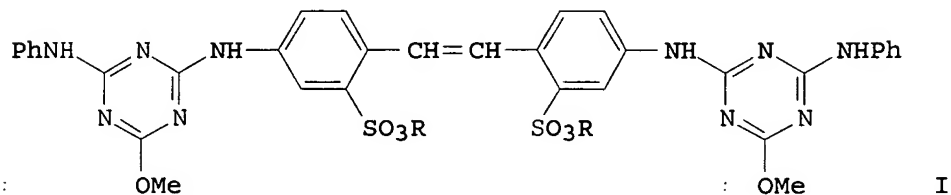
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 57123262	A2	19820731	JP 1981-8991	198101 26

PRIORITY APPLN. INFO.:

JP 1981-8991

198101
26

GI

AB **Fluorescent whitener compns. for**

plastics, textiles, paper, and paper coatings contain C1-4
tetraalkylammonium salts of anionic **fluorescent
whiteners**. For example, a melamine resin compd. contg. I (R
= NMe4) [84046-30-0] 0.4, Zn stearate 0.1, and TiO2 1.0% was molded
at 160° and 270 kg/cm2 for 2 min to give a **whitener**
specimen with **fluorescent** reflectance (based on 100% for
whitener-free control) 135%, compared with 129 and 125 for I
(R = NH4Et3) and I (R = NCH2PhMe2C12H25), resp.

IT 84046-00-4

RL: USES (Uses)

(fluorescent brightener, for melamine resins)

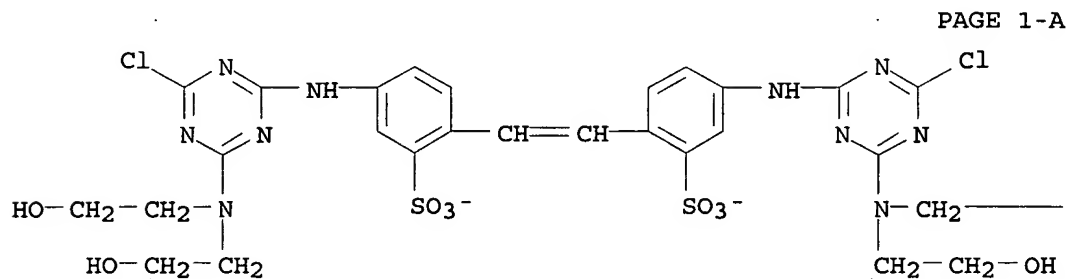
RN 84046-00-4 HCAPLUS

CN Methanaminium, N,N,N-trimethyl-, salt with 2,2'-(1,2-ethenediyl)bis[5-[[4-[bis(2-hydroxyethyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]benzenesulfonic acid] (2:1) (9CI) (CA INDEX NAME)

CM 1

CRN 84045-99-8

CMF C28 H30 Cl2 N10 O10 S2

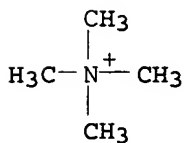


—CH₂—OH

CM 2

CRN 51-92-3

CMF C4 H12 N



IC C09B057-00; C11D003-42

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 40, 42, 43

ST triazinylaminostilbenedisulfonate fluorescent whitener; melamine resin fluorescent whitener; paper fluorescent whitener; coating fluorescent whitener; textile fluorescent whitener

IT Quaternary ammonium compounds, uses and miscellaneous

RL: USES (Uses)

(bis(triazinylamino)stilbenedisulfonate, fluorescent brighteners, for plastics, textiles, coatings and paper)

- IT **Fluorescent brighteners**
(bis(triazinylamino)stilbenedisulfonic acid deriv. quaternary ammonium salts, for plastics, textiles, coatings and paper)
- IT **Paper**
Polyamide fibers, uses and miscellaneous
Rayon, uses and miscellaneous
RL: USES (Uses)
(fluorescent brighteners for,
bis(triazinylamino)stilbenedisulfonic acid quaternary ammonium salts as)
- IT **Coating materials**
(for paper, fluorescent brighteners for,
bis(triazinylamino)stilbenedisulfonic acid quaternary ammonium salts as)
- IT 84046-12-8
RL: USES (Uses)
(fluorescent brightener, for cotton)
- IT 84045-92-1 84045-94-3 84045-95-4 84045-96-5 84045-98-7
84046-00-4 84046-30-0
RL: USES (Uses)
(fluorescent brightener, for melamine resins)
- IT 84046-14-0
RL: USES (Uses)
(fluorescent brightener, for paper)
- IT 84045-98-7 84046-01-5 84046-16-2 84046-18-4 84046-20-8
84046-22-0 84052-77-7
RL: USES (Uses)
(fluorescent brightener, for paper coatings)
- IT 84046-29-7
RL: USES (Uses)
(fluorescent brightener, for paper coatings
and rayon)
- IT 84046-23-1 84046-25-3 84046-27-5
RL: USES (Uses)
(fluorescent brightener, for polyamide
fibers)
- IT 84046-03-7 84046-05-9 84046-07-1 84046-09-3 84046-11-7
84046-12-8 84046-13-9
RL: USES (Uses)
(fluorescent brightener, for urea-melamine
resins)
- IT 84046-01-5
RL: USES (Uses)
(fluorescent brightener, for urea-melamine
resins and ABS)
- IT 84189-50-4
RL: USES (Uses)
(fluorescent brightener, for wool)
- IT 9003-08-1 9003-56-9 25036-13-9
RL: USES (Uses)
(fluorescent brighteners for,
bis(triazinylamino)stilbenedisulfonic acid quaternary ammonium salts as)

L47 ANSWER 13 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1979:612581 HCAPLUS
DOCUMENT NUMBER: 91:212581
TITLE: Stable crystalline ammonium 4,4'-bis(6"-chloro-4"-aminotriazinyl-2"-amino)stilbene-2,2'-disulfonate

INVENTOR(S): PirkI, Jaromir; Fisar, Ctibor
 PATENT ASSIGNEE(S): Czech.
 SOURCE: Czech., 2 pp.
 CODEN: CZXXA9
 DOCUMENT TYPE: Patent
 LANGUAGE: Czech
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CS 178392	B	19790415	CS 1976-2493	19760415

PRIORITY APPLN. INFO.:

CS 1976-2493

19760415

AB Cyanuric chloride [108-77-0] was condensed at 0-5° with Na 4,4'-diamino-stilbene-2,2'-disulfonate [25394-13-2] in an aq. suspension contg. NaHCO₃ and surfactant (Slovasol O), and the resultant mixt. contg. Na 4,4'-bis(6'',4''-dichlorotriazinyl-2''-amino)stilbene-2,2'-disulfonate was heated with a 100-200% excess of NH₄OH and NH₄Cl at 55-65° to yield 92% title compd. [72002-18-7], useful as a **fluorescent whitener**.

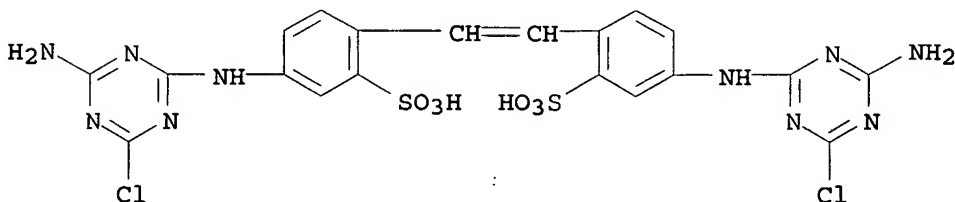
IT 72002-18-7P

RL: PREP (Preparation)

(manuf. of stable cryst., for use as **fluorescent brightener**)

RN 72002-18-7 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[(4-amino-6-chloro-1,3,5-triazin-2-yl)amino]-, diammonium salt (9CI) (CA INDEX NAME)

● 2 NH₃

IC D06L003-12

CC 40-11 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)

ST stilbene fluorescent whitener cryst;
 chlorotriazinyl stilbene fluorescent whitener;
 aminotriazinyl stilbene fluorescent whitener;
 triazinylaminostilbene fluorescent whitener

IT Fluorescent brighteners

(ammonium bis[(aminochlorotriazinyl)amino]stilbenedisulfonate, manuf. of stable cryst.)

IT 72002-18-7P

RL: PREP (Preparation)

(manuf. of stable cryst., for use as fluorescent brightener)

L47 ANSWER 14 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1979:458708 HCAPLUS

DOCUMENT NUMBER: 91:58708

TITLE: Fluorescent brighteners

INVENTOR(S): Baltorowicz, Marian; Higersberger, Ewa;
Rzeszowski, Jerzy; Graczyk, Bernard; Bielski,
Mieczyslaw; Michalczyk, Leopold; Lakowska,
Bogumila

PATENT ASSIGNEE(S): Instytut Przemyslu Organicznego, Pol.

SOURCE: Pol., 5 pp.

CODEN: POXXA7

DOCUMENT TYPE: Patent

LANGUAGE: Polish

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

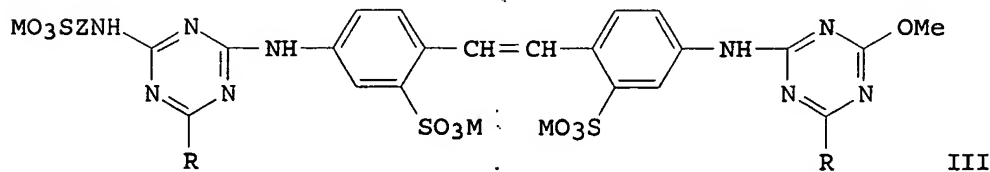
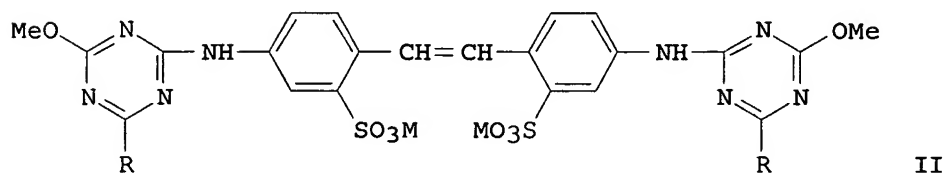
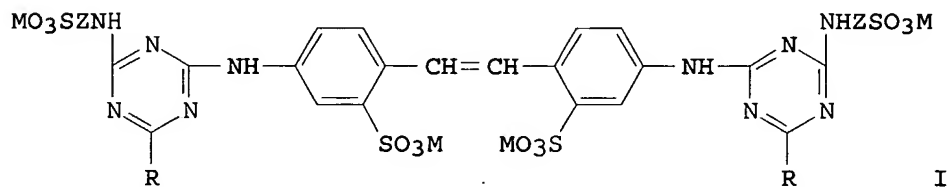
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PL 96554	P	19780131	PL 1974-192825	19740608

PRIORITY APPLN. INFO.:

PL 1974-192825 A

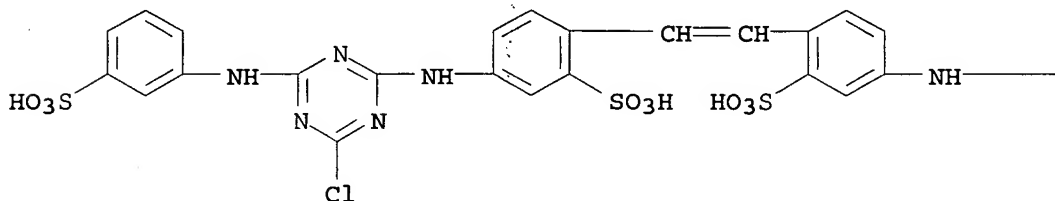
19740608

GI



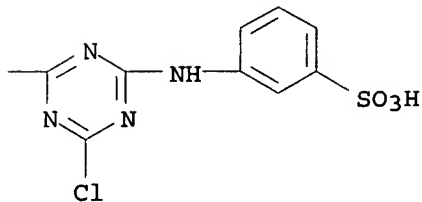
- AB **Fluorescent brighteners** for cellulosic and polyamide fibers and paper, imparting increased intensity and purity of **whiteness**, consist of a **mixt.** of compds. I, II, and III (Z = m- or p-phenylene, R = residue of aliph., arom., or heterocyclic amine or NH₂, M = monovalent cation) contg. 20-65 parts III/100 parts **mixt.** The **brighteners** are prepd. by condensing a **mixt.** of 4,6-dichloro-2-methoxy-s-triazine [3638-04-8] and 4,6-dichloro-2-(m-sulfophenylamino)-s-triazine [14121-39-2] or 4,6-dichloro-2-(p-sulfophenylamino)-s-triazine [16110-89-7] with 4,4'-diamino-2,2'-stilbenedisulfonic acid or its di-Na salt [7336-20-1]. The resulting intermediate, comprising a **mixt.** of compds. I (R = Cl), II (R = Cl), and III (R = Cl), is condensed with aliph., arom., or heterocyclic amines or with NH₃. A mercerized cotton fabric was immersed for 30 min at 40° in a bath contg. 4m3 H₂O, 20 kg NaCl, 1 kg Na₂CO₃, 0.3 kg **fluorescent brightener** consisting of 67 parts I [16470-25-0] and II [4470-72-8] and 33 parts III [58381-68-3] (Z = m-C₆H₄, R = N(CH₂CH₂OH)₂, M = Na in all structures), rinsed, and dried; it had a **white** color with a bluish shade, and the degree of **brightening** (calcd. according to the Anni-Berger formula) was 140.
- IT 37138-25-3P 37138-26-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and reaction with amines)
- RN 37138-25-3 HCAPLUS
- CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-[(3-sulfophenyl)amino]-1,3,5-triazin-2-yl]amino]-, tetrasodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●4 Na

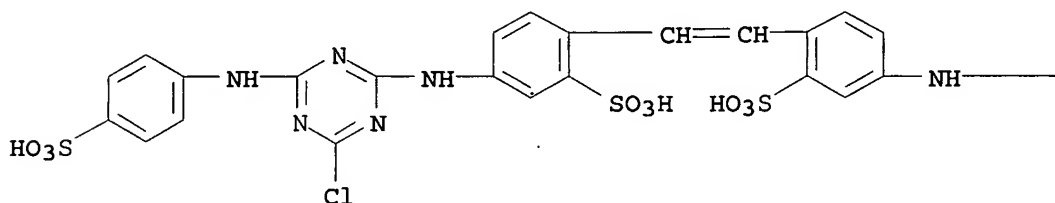
PAGE 1-B



RN 37138-26-4 HCAPLUS

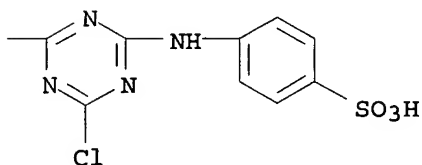
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-[(4-sulfophenyl)amino]-1,3,5-triazin-2-yl]amino]-, tetrasodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●4 Na

PAGE 1-B



IC D06L003-12
 CC 40-11 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)
 ST triazinylaminostilbene fluorescent brightener
 mixt; aminostilbene fluorescent brightener
 mixt; stilbene fluorescent brightener
 mixt; cellulosic fiber fluorescent
 brightener; polyamide fiber fluorescent
 brightener; paper fluorescent brightener
 IT Fluorescent brighteners
 (bis(triazinylamino)stilbenedisulfonic acid deriv. mixts
 ., for cellulosic and polyamide fibers)
 IT Polyamide fibers, uses and miscellaneous
 Rayon, uses and miscellaneous
 RL: USES (Uses)
 (fluorescent brighteners for,
 bis(triazinylamino)stilbenedisulfonic acid deriv. mixts
 . as)
 IT 3426-43-5 3969-41-3 4470-72-8 12224-02-1 16324-27-9
 26858-67-3 34233-64-2 56418-98-5 58381-68-3 58381-69-4
 58381-70-7 58381-72-9
 RL: USES (Uses)
 (fluorescent brightener mixts.
 contg., manuf. and use on cellulosic fibers)
 IT 5108-90-7 28950-61-0 58381-71-8
 RL: USES (Uses)
 (fluorescent brightener mixts.
 contg., manuf. and use on polyamide fibers)
 IT 16110-89-7P 27076-29-5P 37138-25-3P 37138-26-4P

70894-33-6P 70894-35-8P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
RACT (Reactant or reagent)

(prepn. and reaction with amines)

IT 3638-04-8 14121-39-2

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with amines, in **fluorescent****brightener** manuf.)

IT 111-42-2, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with chlorotriazine derivs., in **fluorescent****brightener** manuf.)

IT 62-53-3, reactions 110-91-8, reactions 141-43-5, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with chlorotriazines, in **fluorescent****brightener** manuf.)

L47 ANSWER 15 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1975:462412 HCAPLUS

DOCUMENT NUMBER: 83:62412

TITLE: **Fluorescent whitening agents**

AUTHOR(S): Anon.

CORPORATE SOURCE: UK

SOURCE: Research Disclosure (1975), 129, 13

(No. 12940)

CODEN: RSDSBB; ISSN: 0374-4353

DOCUMENT TYPE: Journal; Patent

LANGUAGE: English

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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RD 129040		19750110		
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PRIORITY APPLN. INFO.:

RD 1975-129040

19750110

GI For diagram(s), see printed CA Issue.

AB Detergent **compns. contg. fluorescent****whiteners** I (R = morpholino, anilino, alkylamino,(hydroxyalkyl)amino; M = H, Na, K) or/and **fluorescent****whitener** II (R1 = H, halogen; M = H, Na, K) incorporated at

0.01-2 wt.% were stabilized against yellowing by the addn. of 0.1-5

wt.%, particularly 0.2-1 wt.%, of nonionic surfactants, preferably

of the fatty acid diester type, e.g. glycolstearates.

IT 54114-81-7D, Benzenesulfonic acid, 2,2'-(1,2-

ethenediyl)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-

yl]amino]-, derivs.

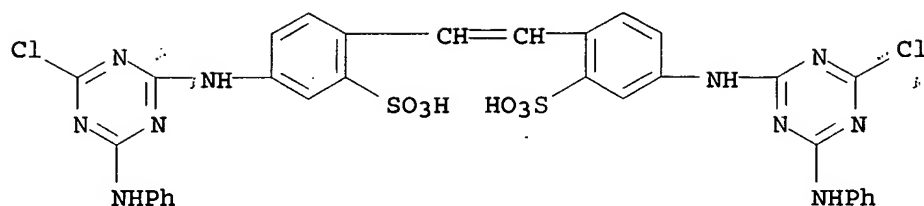
RL: USES (Uses)

(fluorescent **brightener**, for detergents,

nonionic surfactants for nonyellowing)

RN 54114-81-7 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

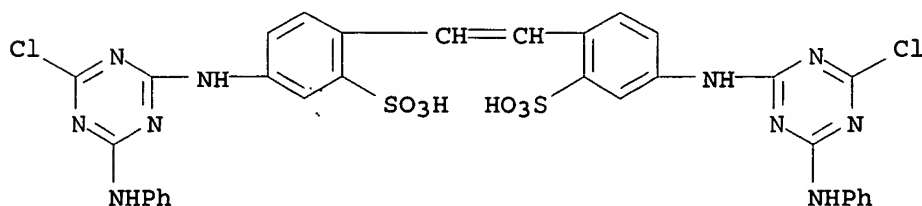


CC 46-5 (Surface Active Agents and Detergents)
 ST detergent fluorescent brightener compn
 ; yellowing fluorescent brightener detergent;
 surfactant fluorescent brightener detergent;
 stilbene fluorescent brightener detergent
 IT Discoloration prevention
 (of fluorescent brighteners in detergent
 compns., by nonionic surfactants)
 IT Fluorescent brighteners
 (stilbene derivs., detergents contg., nonionic surfactants for
 nonyellowing)
 IT Detergents
 (stilbene fluorescent brightener-contg.,
 nonionic surfactants for nonyellowing)
 IT 54114-81-7D, Benzenesulfonic acid, 2,2'-(1,2-
 ethenediyl)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-
 yl]amino]-, derivs. 54275-75-1D, Benzenesulfonic acid,
 ([1,1'-biphenyl]-4,4'-diyl-di-2,1-ethenediyl)bis-, derivs.
 RL: USES (Uses)
 (fluorescent brightener, for detergents,
 nonionic surfactants for nonyellowing)
 IT 9004-99-3
 RL: USES (Uses)
 (surfactant, for nonyellowing of fluorescent
 brighteners in detergent compns.)

L47 ANSWER 16 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1975:141997 HCAPLUS
 DOCUMENT NUMBER: 82:141997
 TITLE: Whitening compositions
 containing bridged halotriazine activators
 PATENT ASSIGNEE(S): American Cyanamid Co.
 SOURCE: Fr. Demande, 10 pp.
 CODEN: FRXXBL
 DOCUMENT TYPE: Patent
 LANGUAGE: French
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2222431	A1	19741018	FR 1974-9573	197403 20
FR 2222431	B1	19771007		
US 3907698	A	19750923	US 1973-343576	197303 21

AU 7465718	A1	19750821	AU 1974-65718	19740218
IT 1004369	A	19760710	IT 1974-49216	19740308
NL 7403230	A	19740924	NL 1974-3230	19740311
BR 7402144	A0	19741105	BR 1974-2144	19740319
JP 49127881	A2	19741206	JP 1974-30658	19740319
BE 812565	A1	19740920	BE 1974-142219	19740320
DD 111421	C	19750205	DD 1974-177355	19740321
PRIORITY APPLN. INFO.:		US 1973-343576	A	19730321
GI	For diagram(s), see printed CA Issue.			
AB	The stilbene derivs. I with R = anilino or methoxy were used as activators for Na perborate (II) [11138-47-9] in laundering. Thus, water contg. an alkylarenesulfonate 2, II 0.33, and I (R = anilino) [54114-81-7] 0.50 g/l. gave 42.8% removal of tea stains from cotton fabrics during laundering at 49°, compared with 35.9% removal without the I.			
IT	54114-81-7			
	RL: CAT (Catalyst use); USES (Uses) (activators, for sodium perborate in bleaching)			
RN	54114-81-7 HCAPLUS			
CN	Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)			



IC C11D
CC 46-5 (Surface Active Agents and Detergents)
IT 26110-34-9 54114-81-7

RL: CAT (Catalyst use); USES (Uses)
(activators, for sodium perborate in bleaching)

L47 ANSWER 17 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1974:49277 HCAPLUS
DOCUMENT NUMBER: 80:49277
TITLE: Asymmetrically substituted bis-
triazinylaminostilbene compounds as
fluorescent whiteners
INVENTOR(S): Tscharner, Christopher J.
PATENT ASSIGNEE(S): Ciba-Geigy A.-G.
SOURCE: Patentschrift (Switz.), 4 pp.
CODEN: SWXXAS
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

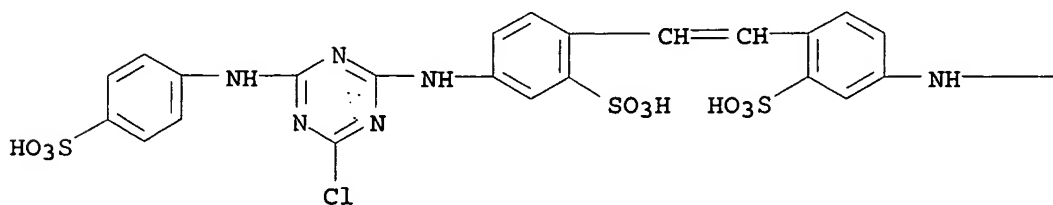
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CH 541024	A	19731015	CH 1969-16014	19691028
<--				
PRIORITY APPLN. INFO.:			CH 1969-16014	A 19691028
<--				

AB **Fluorescent whitener (I)** [49831-00-7] was prepd. and was used to whiten paper, cotton, and in acidic detergent compns. Thus, a mixt. of cyanuric chloride and p-H₂NC₆H₄SO₃H was condensed at pH 6.5-7 for 3 hr at 0.deg., 4,2-H₂N(HO₃S)C₆H₃CH:CHC₆H₃(SO₃H)NH₂-2,4 was added, and heated at 70-75.deg. at pH 8-8.5 to give the dichloro intermediate (II). II was heated with equimol. amts. of Et₂NH and 2,6-dimethylmorpholine at 40.deg. and when the pH reached 10.5-11 the mixt. was salted to give I.

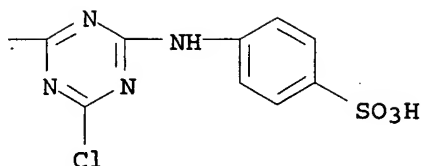
IT 33963-93-8P
RL: IMF (Industrial manufacture); PREP (Preparation)
(prepn. of)

RN 33963-93-8 HCAPLUS
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-[(4-sulfophenyl)amino]-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

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PAGE 1-B



IC D21H; C11D; D06L
 CC 40-11 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)
 ST paper fluorescent whitener; cotton
 fluorescent whitener; detergent
 fluorescent whitener; triazinylaminostilbene
 fluorescent whitener; stilbene fluorescent
 whitener
 IT Fluorescent brighteners
 (asymmetric bis[[(sulfoanilino) triazinyl] amino] stilbenedisulfonat
 e derivs., cotton, paper and detergent)
 IT Detergents
 Paper
 (fluorescent brighteners for, asymmetric
 bis[[(sulfoanilino) triazinyl] amino] stilbenedisulfonate derivs.
 as)
 IT 27935-79-1P 33963-93-8P
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (prepn. of)

L47 ANSWER 18 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1972:128684 HCAPLUS
 DOCUMENT NUMBER: 76:128684
 TITLE: Multicolor dyeing of polyamide yarns
 INVENTOR(S): Buehler, Arthur; Mosimann, Walter
 PATENT ASSIGNEE(S): Ciba-Geigy A.-G.
 SOURCE: Ger. Offen., 35 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2128834	A	19711223	DE 1971-2128834	197106 09
DE 2128834	B2	19750626		
DE 2128834	C3	19760212		
CH 708809	A4	19740315	CH 1970-8809	197006 11
CH 554453	B	19740930		
US 3775045	A	19731127	US 1971-150930	197106

08

BE 768329 A1 19711210 BE 1971-104452 197106
10

NL 7107984 A 19711214 NL 1971-7984 197106
10

FR 2100749 A1 19720324 FR 1971-21143 197106
10

FR 2100749 A5 19720324
GB 1337598 A 19731114 GB 1971-27373 197106
10

PRIORITY APPLN. INFO.: CH 1970-8809 A 197006
11

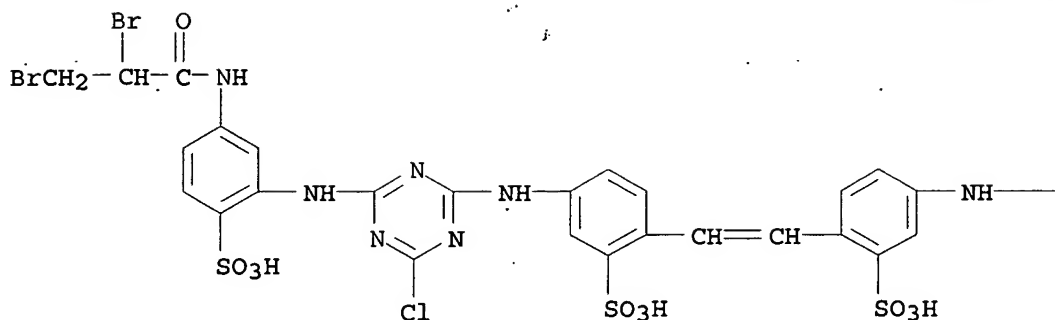
AB Wool or nylon 66 yarns were dyed **bright** and dark shades of the same color by resisting one part of the yarns with colorless, fiber-reactive compds., e.g. I-III, and dyeing the pretreated and the untreated parts in the usual manner to give **bright** and dark shades, resp. Thus, 100 parts wool yarn was treated with an aq. suspension (liquor ratio 1:40) contg. 6% 4,4'-bis(2,3-dibromopropionylamino)stilbene-2,2'-disulfonic acid (I) [34564-18-6], 2.5% HOAc (80%), and 1% mixt. of (A) 1 part 7:1 mole ethylene oxide-amine (30% C16H33NH2, 25% C18H37NH2, 45% C18H35NH2) adduct, quaternized with ClCH2CONH2 and (B) 1 part NH4HSO4 salt of the nonquaternized above adduct. After washing, the yarn was dyed together with 100 parts untreated wool yarn 60 min at 100.deg. in a bath (liquor ratio 1:40) contg. 0.75% 1-amino-4-[4-(α -bromoacryloylamino)-2-sulfophenylamino]anthraquinone-2-sulfonic acid [29547-38-4] and 0.5% A, pH adjusted to 5.5 by HOAc. After cooling to 80.deg., pH was adjusted to 8.5 with NH4OH, and the yarns were washed and dried to give blue or **bright** blue shades on the untreated or pretreated yarns, resp. If the pretreatment was performed with only 3% I or without A, a smaller contrast between pretreated and untreated fibers was obtained.

IT 36366-21-9
RL: USES (Uses)
(dye resists, in multicolor dyeing of polyamide fiber yarns)

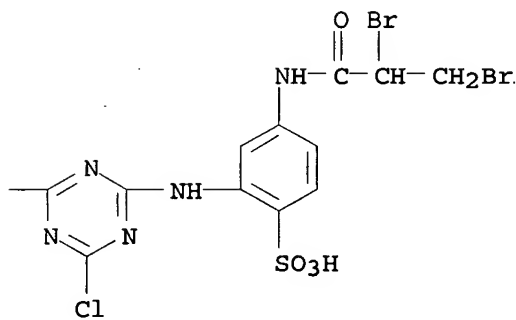
RN 36366-21-9 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-[[5-[(2,3-dibromo-1-oxopropyl)amino]-2-sulfophenyl]amino]-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IC D06P
 CC 39 (Textiles)
 IT 34564-18-6 36271-60-0 36366-21-9 36524-22-8
 RL: USES (Uses)
 (dye resists, in multicolor dyeing of polyamide fiber yarns)

L47 ANSWER 19 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1971:450422 HCAPLUS
 DOCUMENT NUMBER: 75:50422
 TITLE: Bis(triazinylamino)stilbene fluorescent
 whitening agent
 INVENTOR(S): Horlacher, Paul; Creutzburg, Gerhard
 PATENT ASSIGNEE(S): Geigy, J. R., A.-G.
 SOURCE: Ger. Offen., 19 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2051718	A	19710429	DE 1970-2051718	197010 21
CH 535775	A	19730530	CH 1969-15763	

196910
22

FR 2066295 A5 19710806 FR 1970-37954

197010
21

GB 1318217 A 19730523 GB 1970-50033

197010
21

PRIORITY APPLN. INFO.: CH 1969-15763 A

196910
22

GI For diagram(s), see printed CA Issue.

AB An unsym. bis(triazinylamino)stilbene (I) was prepd. (as the diethanolamine salt), dild. to form a stable 25% aq. soln., and used as a **fluorescent whitener** for cotton fabric and esp. paper. Thus, 0.542 mole p-H₂NC₆H₄SO₃H was treated 3 hr with 0.542 mole aq. cyanuric chloride at 0° and pH 1-2, 0.257 mole di-Na 4,4'-diaminostilbene-2,2'-disulfonate added at pH 6-7, heated 1 hr at 90-5°, the product pptd. by NaCl, added wet to 0.545 mole (HOCH₂CH₂)₂NH and 0.545 mole of a mixt. of 58% 2,5-, 36% 3,5-, and 8% 2,3-dimethylmorpholine, dild. with H₂O to 900 g, heated at 90-5° for 1 hr, cooled, treated with 150 g EtOCH₂CH₂OH and 58 g (HOCH₂CH₂)₂NH, and dild. with 40 ml H₂O to give a **whitener** concn. of 25%.

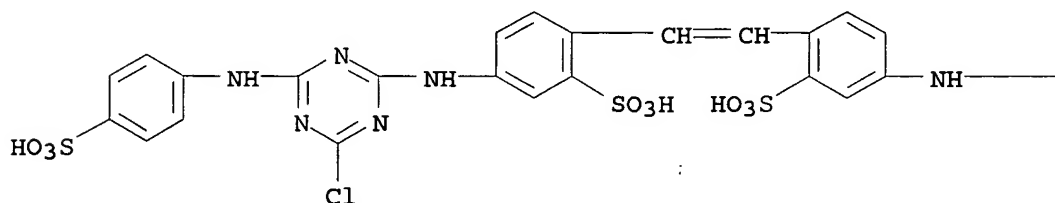
IT 33963-93-8P

RL: IMF (Industrial manufacture); PREP (Preparation)
(prepn. of)

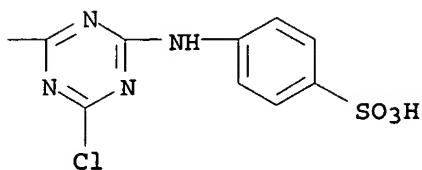
RN 33963-93-8 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-[(4-sulphenyl)amino]-1,3,5-triazin-2-yl]amino] - (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IC D06L

MEI HUANG EIC1700 REM4B28 571-272-3952

08/17/2006

CC 40 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)
ST triazinyl stilbene fluorescent whitener;
morpholine deriv fluorescent whitener;
diethanolamine deriv fluorescent whitener; paper
fluorescent whitener; cotton fluorescent
whitener
IT Fluorescent brightening agents
(bis[[(sulfoanilino)triazinyl]amino]stilbenedisulfonic acid
unsym. amino derivs., for cotton)
IT Paper
(fluorescent brightening agents for,
bis[[(sulfoanilino)triazinyl]amino]stilbenedisulfonic acid unsym.
amino derivs. as)
IT 33963-93-8P
RL: IMF (Industrial manufacture); PREP (Preparation)
(prepn. of)

L47 ANSWER 20 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1971:113261 HCAPLUS

DOCUMENT NUMBER: 74:113261

TITLE: Guanidinium salts of aminostyrenesulfonic acids
as whitening agents

INVENTOR(S): Horstmann, Walter

PATENT ASSIGNEE(S): Farbenfabriken Bayer A.-G.

SOURCE: Ger. Offen., 23 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 1929664	A	19701217	DE 1969-1929664	196906 11
AT 297652	B	19720410	AT 1970-5011	197006 04
US 3759900	A	19730918	US 1970-43580	197006 04
BE 751846	A	19701116	BE 1970-751846	197006 11
NL 7008549	A	19701215	NL 1970-8549	197006 11
FR 2051094	A5	19710402	FR 1970-21486	197006 11
GB 1292520	A	19721011	GB 1970-1292520	197006

11

CH 708828

A4

19740913

CH 1970-8828

197006

11

PRIORITY APPLN. INFO.:

DE 1969-1929664

A

196906

11

GI For diagram(s), see printed CA Issue.

AB The title compds. (I), prepd. from (RNH)2C:NH.HX (R = H, Ph, C12H25) and the di-Na salts of the sulfonic acids, were used as fluorescent whitening agents for polyamide, polyamide-rayon, cotton-polyester, or cotton poplin textiles. Thus, an aq. suspension of II was treated at 40° with a soln. of (PhNH)2C:NH.HCl and stirred for 3 hr at 40° to give I (R = R1 = 4-phenyl-2H-v-triazol-2-yl, R2 = Ph), which whitened both fibers in a nylon-rayon blend. Similarly 4 other I were prepd.

IT 31871-59-7P

RL: IMF (Industrial manufacture); PREP (Preparation)
(prepn. of)

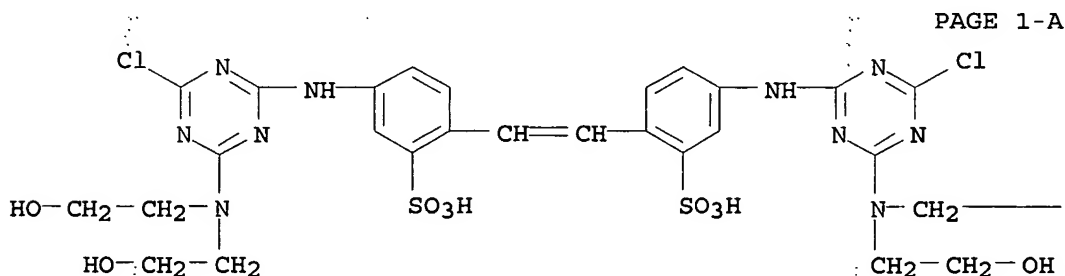
RN 31871-59-7 HCAPLUS

CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-[bis(2-hydroxyethyl)amino]-6-chloro-s-triazin-2-yl]amino]-, compd. with 1,3-diphenylguanidine (1:2) (8CI) (CA INDEX NAME)

CM 1

CRN 50570-59-7

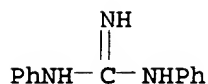
CMF C28 H32 Cl2 N10 O10 S2



—CH2—OH

CM 2

CRN 102-06-7
CMF C13 H13 N3



IC C07C; C07D
CC 40 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)
ST guanidinium aminostyrenesulfonates **whitening**
IT Fiber, polyester, uses and miscellaneous
Nylon, uses and miscellaneous
RL: USES (Uses)
(fluorescent brightening agents for,
guanidine compds. with ditriazolylstilbenedisulfonic acid derivs.
as)
IT **Fluorescent brightening agents**
(guanidine compds. with ditriazolylstilbenedisulfonic acid
derivs., synthetic fibers)
IT 31773-50-9P 31773-51-0P 31773-52-1P 31773-53-2P
31871-59-7P
RL: IMF (Industrial manufacture); PREP (Preparation)
(prepn. of)

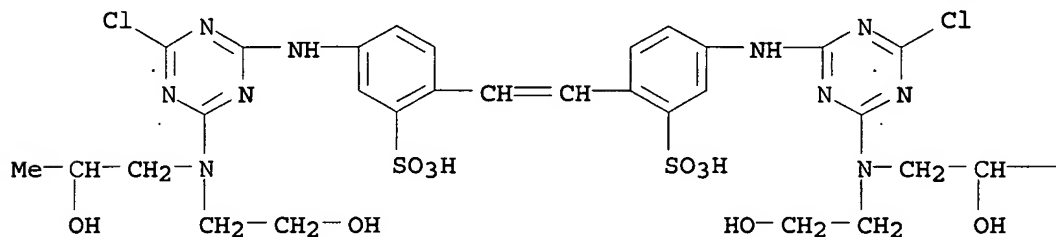
L47 ANSWER 21 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1969:503114 HCAPLUS
DOCUMENT NUMBER: 71:103114
TITLE: Bis(triazinylamino)stilbene **fluorescent**
whitening agents
INVENTOR(S): Noguchi, Tamehiko; Sumitani, Mitsukuni
PATENT ASSIGNEE(S): Nippon Kayaku Co., Ltd.
SOURCE: Jpn. Tokkyo Koho, 5 pp.
CODEN: JAXXAD
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 44004605	B4	19690225	JP	196602 07

GI For diagram(s), see printed CA Issue.
AB I (R and R2 = CH2CH2OH or CHOHMe, R1 and R3 = CH2CH2OH, CH2CHOHMe,
or CH2CHOHET, R4 = H or Na) are used as **fluorescent**
brighteners for nylon, woolen, and cotton fabrics to improve
light fastness, wash fastness, and **whiteness** of the
fabrics. For example, 100 parts a nylon fabric was treated with a
mixt. (pH4) of 0.2 part I (R = CH2CH2OH, R1 = R2 =
CH2CHOHMe, R3 = Na) and 6 parts a nonionic surfactant in 3000 parts
water at 80° for 30 min.
IT 13281-94-2 23578-04-3 23612-96-6
25732-69-8 25845-38-9
RL: USES (Uses)
(in bleaching and stabilization of textiles)

RN 13281-94-2 HCAPLUS
 CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-chloro-6-[(2-hydroxyethyl)(2-hydroxypropyl)amino]-s-triazin-2-yl]amino]-, disodium salt (8CI) (CA INDEX NAME)

PAGE 1-A



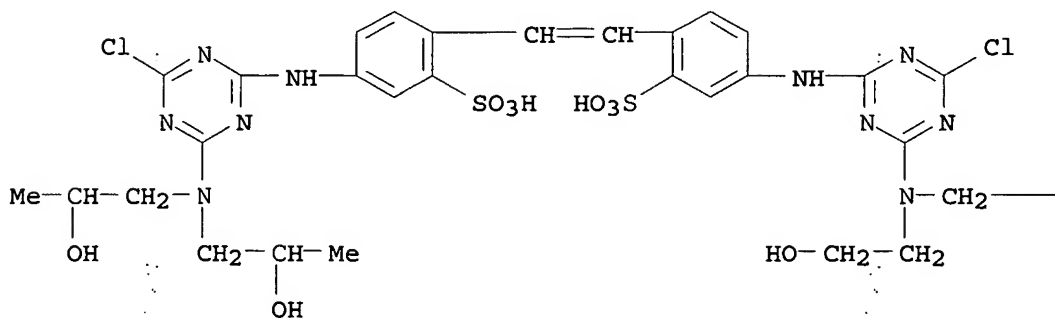
●2 Na

PAGE 1-B

— Me

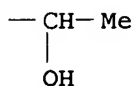
RN 23578-04-3 HCAPLUS
 CN 2,2'-Stilbenedisulfonic acid, 4-[[4-[bis(2-hydroxypropyl)amino]-6-chloro-s-triazin-2-yl]amino]-4'-[[4-chloro-6-[(2-hydroxyethyl)(2-hydroxypropyl)amino]-s-triazin-2-yl]amino]-, disodium salt (8CI) (CA INDEX NAME)

PAGE 1-A



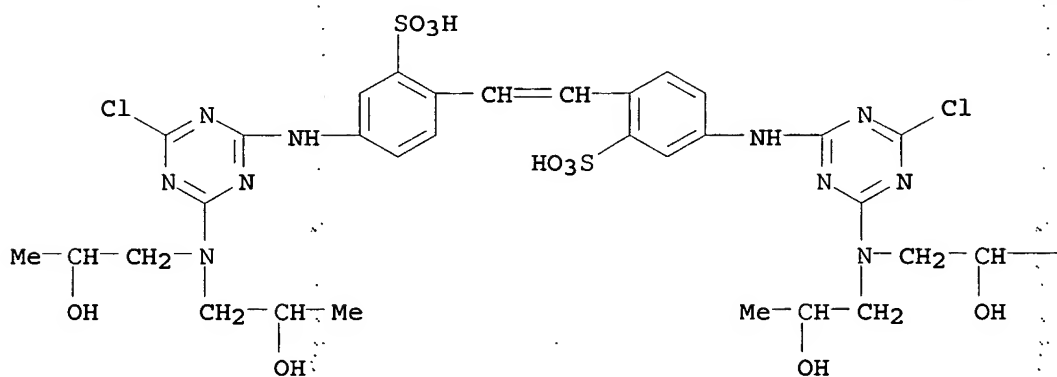
●2 Na

PAGE 1-B



RN 23612-96-6 HCAPLUS
 CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-[bis(2-hydroxypropyl)amino]-6-chloro-s-triazin-2-yl]amino] - (8CI) (CA INDEX NAME)

PAGE 1-A

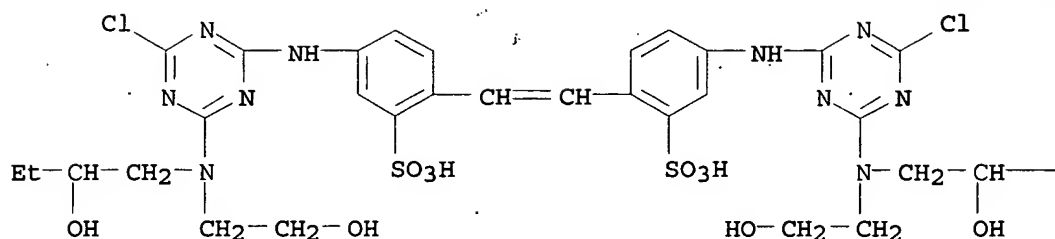


PAGE 1-B



RN 25732-69-8 HCAPLUS
 CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-chloro-6-[(2-hydroxybutyl)(2-hydroxyethyl)amino]-s-triazin-2-yl]amino] - (8CI) (CA INDEX NAME)

PAGE 1-A

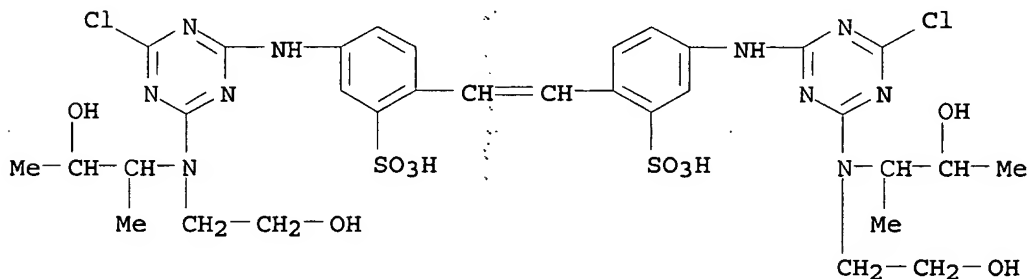


PAGE 1-B

— Et

RN 25845-38-9 HCAPLUS

CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-chloro-6-[(2-hydroxyethyl)(2-hydroxy-1-methylpropyl)amino]-s-triazin-2-yl]amino]- (8CI) (CA INDEX NAME)

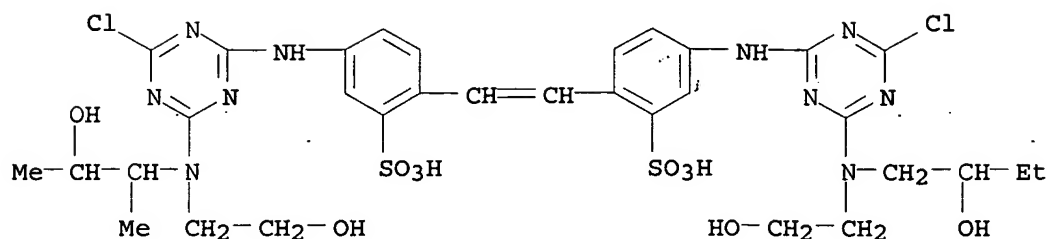


IT 23646-79-9P

RL: IMF (Industrial manufacture); PREP (Preparation)
(prepn. of)

RN 23646-79-9 HCAPLUS

CN 2,2'-Stilbenedisulfonic acid, 4-[[4-chloro-6-[(2-hydroxybutyl)(2-hydroxyethyl)amino]-s-triazin-2-yl]amino]-4'-[[4-chloro-6-[(2-hydroxyethyl)(2-hydroxy-1-methylpropyl)amino]-s-triazin-2-yl]amino]- (8CI) (CA INDEX NAME)



INCL 48B04

CC 39 (Textiles)

ST fluorescent brightening fabrics;
 brightening fabrics fluorescent; fabrics
 fluorescent brightening; triazines
 fluorescent brightening; stilbenes
 fluorescent brightening

IT Bleaching
 (fluorescent, with stilbenedisulfonic acid
 triazinylamino derivs.)

IT 13281-94-2 14848-03-4 23578-04-3

23612-96-6 25732-69-8 25845-38-9

RL: USES (Uses)

(in bleaching and stabilization of textiles)

IT 23646-79-9P

RL: IMF (Industrial manufacture); PREP (Preparation)
 (prepn. of)

L47 ANSWER 22 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1966:68476 HCAPLUS

DOCUMENT NUMBER: 64:68476

ORIGINAL REFERENCE NO.: 64:12851h,12852a-c

TITLE: Anthraquinone dyes

INVENTOR(S): Peter, Albin; Baserger, Emilio; Guenthard,
 Jacques

PATENT ASSIGNEE(S): Sandoz Ltd.

SOURCE: 6 pp.

DOCUMENT TYPE: Patent

LANGUAGE: Unavailable

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CH 395397		19651231	CH 1958-63736	195809 09

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GI For diagram(s), see printed CA Issue.

AB I, blue dyes for silk, wool, and synthetic polyamides, are prepd.
 from 1-amino-4-bromoanthraquinone-2-sulfonic acid (II) or
 -2,6-disulfonic acid, and a substituted aniline in aq. or aq. alc.
 soln. in the presence of a Cu catalyst and Na₂CO₃ or NaHCO₃. When Y
 = H, I can be halogenated in concd. H₂SO₄ or dil. oleum at
 0-5°; the anilino ring may be sulfonated in H₂SO₄ with 25%
 oleum. A soln. of 1,3-diamino-2,4,6-trimethylbenzene-5-sulfonic
 acid 92, Na₂CO₃ 24, and H₂O 200 parts was added to a mixt.
 of II (Na salt) 81, Cu powder 2, CuCl 2, Na₂CO₃ 32, and H₂O 200

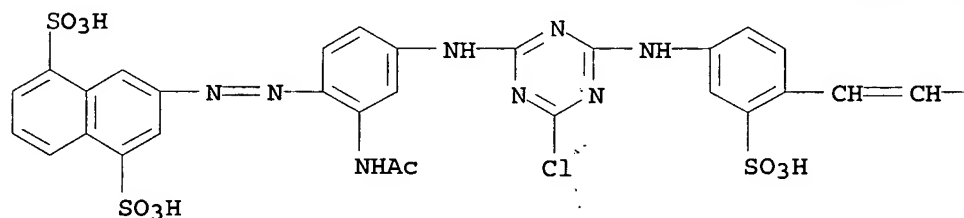
parts and the mixt. heated at 50-5° for 20 hrs., then at 60-5° until II disappeared. The mixt. was poured into 1000 parts H₂O, 350 parts 30% HCl was added and the mixt. filtered, washed with dil. HCl and pasted neutral with Na₂CO₃ to give I (R = X = H, V = SO₃Na, W = Y = Me) (III), bright blue on silk, wool, and polyamides. A soln. of 5.4 parts III in 50 parts H₂O treated with 2 parts Ac₂O and 3 parts NaHCO₃ at 60-70° gave the III analog with R = Ac. Similarly, the following I were prepd. (X, R, W, V, and Y given): H, CO₂C₁₀H₂₁, Me, SO₃Na, Me; H, H, H, H, Me; H, Ac, SO₃H, H, Me; H, Ac, H, H, Me; H, H, Me, NH₂, Me; SO₃Na, Ac, Me, H, H; SO₃Na, Ac, Me, H, Br; SO₃Na, H, Me, NH₂, Me; SO₃Na, H, Et, H, Et; SO₃Na, COCH:CH₂, Et, H, Et.

IT 6015-82-3, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-[3-acetamido-4-[(4,8-disulfo-2-naphthyl)azo]anilino]-6-chloro-s-triazin-2-yl]amino]-6-chloro-s-triazin-2-yl]amino]-2-sulfoanilino]-6-chloro-s-triazin-2-yl]amino]- (prepn. of)

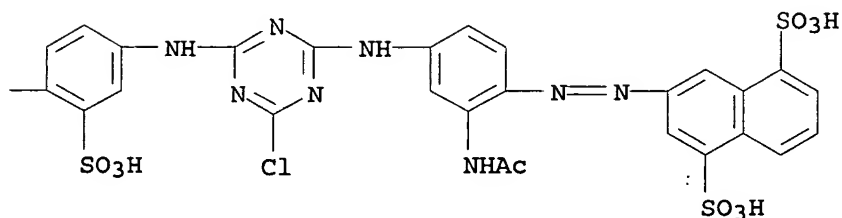
RN 6015-82-3 HCAPLUS

CN 1,5-Naphthalenedisulfonic acid, 3,3'-[1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino(6-chloro-1,3,5-triazine-4,2-diyl)imino[2-(acetylamino)-4,1-phenylene]azo]]bis- (9CI) (CA INDEX NAME)

PAGE 1-A



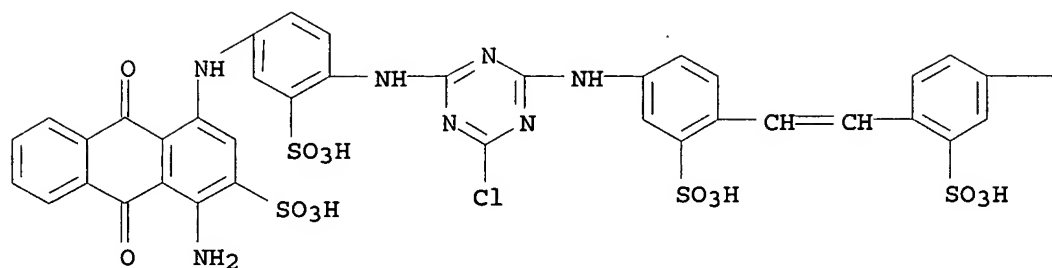
PAGE 1-B



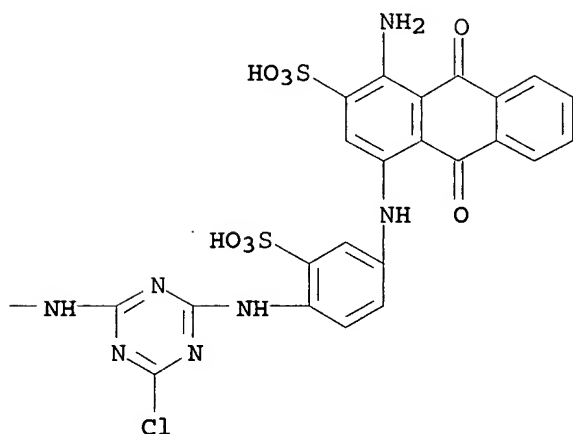
RN 6401-16-7 HCAPLUS

CN 2-Anthracenesulfonic acid, 4,4'-[1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino(6-chloro-1,3,5-triazine-4,2-diyl)imino(3-sulfo-4,1-phenylene)imino]]bis[1-amino-9,10-dihydro-9,10-dioxo- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IC C09B
 CC 46 (Dyes)
 IT 6013-39-4, 1,5-Naphthalenedisulfonic acid, 3,3'-[p-phenylenebis[imino(6-chloro-s-triazine-4,2-diyl)imino(2-acetamido-p-phenylene)azo]]di- 6015-82-3, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-[3-acetamido-4-[(4,8-disulfo-2-naphthyl)azo]anilino]-6-chloro-s-triazin-2-yl]amino]-6401-16-7, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-[4-[(4-amino-3-sulfo-1-anthraquinonyl)amino]-2-sulfoanilino]-6-chloro-s-triazin-2-yl]amino]- (prepn. of)

L47 ANSWER 23 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1964:425927 HCAPLUS
 DOCUMENT NUMBER: 61:25927
 ORIGINAL REFERENCE NO.: 61:4526a-f

MEI HUANG EIC1700 REM4B28 571-272-3952

08/17/2006

TITLE: 4,4'-Bis(s-triazin-2-ylamino)-2,2'-disulfostilbenes
 INVENTOR(S): Crounse, Nathan N.; Delaney, John W.
 PATENT ASSIGNEE(S): Sterling Drug Inc.
 SOURCE: 34 pp.
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

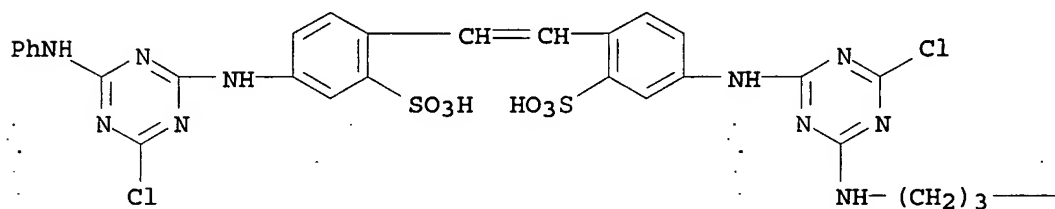
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 1353128		19640221	FR	19620216
GB 997175			GB	
US 3193548		1965	US	
PRIORITY APPLN. INFO.:			FR	19620216

GI For diagram(s), see printed CA Issue.
 AB Amines of the general formula $\text{HO}(\text{CH}_2\text{CH}_2\text{O})_n\text{CH}_2\text{CH}_2\text{OZNH}_2$, where n is 0, 1, 2, or 3 and Z is an alkylene group, or heterocyclic amines, such as morpholine and piperidine, are treated with a compd. of the general formula 4,2-R(MO₃S)C₆H₃CH:CHC₆H₃(SO₃M)R'-2,4, where M is an alkali metal and R and R' are dihalo-s-triazinylamino groups, to give compds., where the s-triazinyl ring contains groups of the general formula $\text{NH}_2\text{OCH}_2\text{CH}_2(\text{OCH}_2\text{CH}_2)_n\text{OH}$, which can be used as optical brighteners. Thus, a soln. of 21.1 g. [4,2-H₂N(HO₃S)C₆H₃CH:] in 151 ml. H₂O is added in 6-8 min. to a soln. of 21.5 g. cyanuric chloride in 117 ml. Me₂CO, 218 g. ice, and 163 g. H₂O, 12.3 g. 45% KOH is added, a mixt. of 8.25 g. K₂CO₃ and 21.8 g. ice is added, and the mixt. is kept at <10° to give a mixt. contg. the di-K salt (I) of 4,4'-bis(4,6-dichloro-s-triazin-2-ylamino)-2,2'-disulfostilbene. The mixt. contg. I is treated with 9.3 g. HOCH₂CH₂OCH₂CH₂O(CH₂)₃NH₂ at ≤19° for 1.5 hrs. at pH 7 to give a mixt. contg. II (n = 2, m = 3, R = R' = Cl, M = K) (III). The mixt. contg. III is treated at pH 7 at ≤24° with PhNH₂ to give a mixt. contg. II (n = 2, m = 3, R = Cl, R' = NHPH, M = K) (IV). The mixt. contg. IV is treated with 15.9 g. PhNH₂, heated at 55°, treated with 10 g. Na₂HPO₄ and 14 ml. 20% KOH to give pH 8.5 9.0, refluxed for 1.5 hrs., and made acid to Congo red to give 55.8 g. II n = 2, m = 3, R = R' = NHPH, M = K). Similarly prepd. are the following II (M = H) (n, m, R, and R' given): 1, 3, 3-EtOC₆H₄NH, 4-ClC₆H₄NH; 2, 3, PhNH, HO(CH₂CH₂O)₂(CH₂)₃NH; 2, 2, PhNH, HO(CH₂CH₂O)₂(CH₂)₃NH; 2, 3, HO(CH₂CH₂O)₂(CH₂)₃NH, PhNH; 2, 3, HO(CH₂CH₂O)₂(CH₂)₃NH, HO(CH₂CH₂O)₂(CH₂)₃NH; 2, 3, HOCH₂CH₂NH, HO(CH₂CH₂O)₂(CH₂)₃NH; 2, 3, EtO, HO(CH₂CH₂O)₂(CH₂)₃NH; 2, 3, morpholino, HO(CH₂CH₂O)₂(CH₂)₃NH; 2, 3, CH₂:CHCH₂NH, HO(CH₂CH₂O)₂(CH₂)₃NH; 2, 3, C₅H₁₁NH, HO(CH₂CH₂O)₂(CH₂)₃NH; 2, 3, NH₂, HO(CH₂CH₂O)₂(CH₂)₃NH. V [R = R' = HO(CH₂CH₂O)₂CHMeCH₂NH, R' = PhNH, M = HI is prepd. similarly. Also prepd. are the following intermediates of the formula II (n, m, M, R, and R' given): 1, 3, H, Cl, Cl; 1, 3, K, Cl, 4-ClC₆H₄NH; 2, 3, H, Br, Br; 2, 3, H, Br, PhNH;

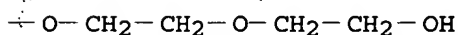
2, 3, K, Cl, HO(CH₂CH₂O)₂(CH₂)₃NH; 2, 3, H, OH, HO-(CH₂CH₂O)₂(CH₂)₃NH. Intermediates of formula V are also prep'd. (M, R, R', and R'' given): K, Br, Br, Br; K, Cl, PhNH, Cl; K, PhNH, Cl, Cl; H, Cl, morpholino, Cl; H, Cl, CH₂:CHCH₂NH, Cl; H, Cl, C₅H₁₁NH, Cl; II, Cl, NII₂, Cl.

IT 105404-13-5, 2,2'-Stilbenedisulfonic acid, 4-[(4-anilino-6-chloro-s-triazin-2-yl)amino]-4'-[[4-chloro-6-[[3-[2-(2-hydroxyethoxy)ethoxy]propyl]amino]-s-triazin-2-yl]amino]-(prepn. of)
 RN 105404-13-5 HCAPLUS
 CN 2,2'-Stilbenedisulfonic acid, 4-[(4-anilino-6-chloro-s-triazin-2-yl)amino]-4'-[[4-chloro-6-[[3-[2-(2-hydroxyethoxy)ethoxy]propyl]amin o]-s-triazin-2-yl]amino]-(7CI) (CA INDEX NAME)

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PAGE 1-B



IC C07D; D06L
 CC 46 (Dyes)
 IT 76-59-5, o-Toluenesulfonic acid, α,α-bis(6-bromo-5-hydroxycarvacryl)-α-hydroxy-, γ-sultone 102521-44-8, 2,2'-Stilbenedisulfonic acid, 4-[[4-chloro-6-[[3-[2-(2-hydroxyethoxy)ethoxy]propyl]amino]-s-triazin-2-yl]amino]-4'-[(4,6-dichloro-s-triazin-2-yl)amino]- 105404-13-5, 2,2'-Stilbenedisulfonic acid, 4-[(4-anilino-6-chloro-s-triazin-2-yl)amino]-4'-[[4-chloro-6-[[3-[2-(2-hydroxyethoxy)ethoxy]propyl]amin o]-s-triazin-2-yl]amino]- 105861-83-4, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-(allylamino)-6-[[3-[2-(2-hydroxyethoxy)ethoxy]propyl]amino]-s-triazin-2-yl]amino]- 105862-93-9, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-[[3-[2-(2-hydroxyethoxy)ethoxy]propyl]amino]-6-morpholino-s-triazin-2-yl]amino]- 105948-25-2, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-ethoxy-6-[[3-[2-(2-hydroxyethoxy)ethoxy]propyl]amino]-s-triazin-2-yl]amino]- 106385-37-9, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-[[3-[2-(2-hydroxyethoxy)ethoxy]propyl]amino]-6-(pentylamino)-s-triazin-2-yl]amino]- 106405-58-7, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-amino-6-[[3-[2-(2-hydroxyethoxy)ethoxy]propyl]amino]-s-triazin-2-yl]amino]- 106598-80-5, 2,2'-Stilbenedisulfonic acid; 4,4'-bis[[4,6-bis[[3-[2-

(2-hydroxyethoxy)ethoxy]propyl]amino]-s-triazin-2-yl]amino]-
 106630-25-5, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-anilino-6-[[2-
 [2-(2-hydroxyethoxy)ethoxy]propyl]amino]-s-triazin-2-yl]amino]-
 106884-76-8, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-anilino-6-[[3-
 [2-(2-hydroxyethoxy)ethoxy]propyl]amino]-s-triazin-2-yl]amino]-
 107442-87-5, 2,2'-Stilbenedisulfonic acid, 4-[[4-anilino-6-[[3-[2-(2-
 hydroxyethoxy)ethoxy]propyl]amino]-s-triazin-2-yl]amino]-4'-[[4,6-
 bis[[3-[2-(2-hydroxyethoxy)ethoxy]propyl]amino]-s-triazin-2-
 yl]amino]- 107713-13-3, 2,2'-Stilbenedisulfonic acid,
 4-[[4-(p-chloroanilino)-6-m-phenetidino-s-triazin-2-yl]amino]-4'-[[4-
 [[3-(2-hydroxyethoxy)propyl]amino]-6-m-phenetidino-s-triazin-2-
 yl]amino]- 107894-63-3, 2,2'-Stilbenedisulfonic acid,
 4-[[4-anilino-6-[[3-[2-(2-hydroxyethoxy)ethoxy]propyl]amino]-s-
 triazin-2-yl]amino]-4'-[[4,6-dianilino-s-triazin-2-yl]-amino]-
 856646-19-0, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-[[3-[2-(2-
 hydroxyethoxy)ethoxy]-propyl]amino]-6-[(2-hydroxyethyl)amino]-s-
 triazin-2-yl]amino]-
 (prepn. of)

L47 ANSWER 24 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1963:475801 HCAPLUS
 DOCUMENT NUMBER: 59:75801
 ORIGINAL REFERENCE NO.: 59:14144g-h,14145a-d
 TITLE: 3-Phenyl-7-(1-pyrazolyl)coumarins
 PATENT ASSIGNEE(S): J. R. Geigy A.-G.
 SOURCE: 37 pp.
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 1320597		19630308	FR 1962-895713	196204 26
				<--
				PRIORITY APPLN. INFO.: CH
				196104 27
				<--

GI For diagram(s), see printed CA Issue.

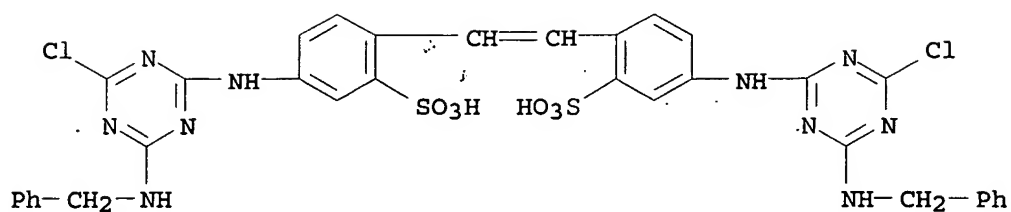
AB Compds. of the formula I, in which R1 and R2 = H, Me or Ph and R3 =
 Ph or substituted Ph, were prepd. by various methods. From
 3-substituted 7-aminocoumarins the following derivs were prepd. (
 substituent and m.p. given): Ph, 174-5° (II); m-tolyl (HCl
 salt), 260° (decompn.); p-tolyl, 215° (decompn.);
 p-ClC6H4, 220° (decompn.). To a stirred soln. of Ac2CH2 20
 in AcOH 250 was added II 25.2 parts. The mixt. was heated
 for 1 hr. at 100°, cooled, and the solid filtered, giving I
 (R1 = R2 = Me, R3 = Ph), fine needles, (PhMe) m. 210°.
 (MeO)2CHCH3Ac (IIA) 90 was added at 10° to a soln. of
 m-H2NNHC6H4SO3H 104 and NaOH 22 in H2O 700 parts. The soln. was
 stirred for 14 hrs. at 20-5° and then for 3 hrs. at
 90-100°, and treated with 20% NaCl soln. to ppt. the Na salt
 (III) of m-(3-methyl-1-pyra-zolyl)benzenesulfonic acid. III 418,
 NaOH 440, and H2O 1000 parts were heated in an autoclave for 6 hrs.
 to 260-70°, the mixt. dissolved in 1200 parts H2O,
 heated with C, cooled, clarified, and treated with AcOH to ppt.
 1-(m-hydroxyphenyl)-3-methyl-pyrazole (IV), m. 104°. CHCl3

115 was added to a soln. of IV 105 and NaOH 173 in EtOH 325 and H₂O 360 parts, the mixt. stirred for 1 hr. at 72-5° and 14 hrs. at room temp., the solvents distd. at reduced pressure, the residue dissolved in 1000 parts H₂O, and the filtrate soln. acidified. The resinous ppt. was sepd., mixed with 1000 parts Et₂O, clarified, and the filtrate evapd. leaving 2-hydroxy-4-(3-methyl-1-pyrazolyl)benzaldehyde (V), an oil. V 100 in EtOH 250 was treated with PhCH₂CN 52 and piperidine 10 parts, the mixt. heated for 1 hr. at 75-80°, 10 parts piperidine added, the mixt. refluxed for 20 hrs., poured into 3000 parts 10% AcOH, and refluxed for 4 hrs. The pptd. oil, which solidified on cooling, was sepd. and washed with EtOH to yield I (R₁ = Me, R₂ = H, R₃ = Ph) (VI), m. 216-17° (C₆H₆-ligroine); λ_{max} 346 mμ, log ε 4.54. VI was also prepd. from II and IIA. A monosulfonic acid of VI was also made by sulfonation at room temp. VI₃O was dissolved at 0-5° in HSO₃Cl 300 parts, the mixt. kept for 14 hrs. at room temp., poured on ice, and the yellowish ppt. washed with H₂O to give I (R₁ = Me, R₂ = H, R₃ = m-ClSO₂C₆H₄) (VII). VII 10 suspended in PhCl 150 was treated with Me₂N(CH₂)₃NH₂ 6 parts, the mixt. heated at 100° for 0.5 hr., refluxed for a short period, filtered hot, and cooled to give cryst. I [R₁ = Me, R₂ = H, R₃ = m-(Me₂NCH₂-CH₂CH₂NHSO₂C₆H₄)], m. 210° (PhCl). Similarly, other I were prepd. (R₁, R₂, R₃, m.p., λ_{max}. in mμ, and log ε given): Me, Me, m-tolyl, 179-80°, -, -; Me, Me, p-tolyl, 205°, -, -; Me, Me, p-ClC₆H₄, 237-8°, -, -; H, Me, Ph, 188°, 335, 4.44; H, Me, m-tolyl, 153°, 335, 4.43; Me, H, p-tolyl, 240°, -, -; Me, H, p-ClC₆H₄, 244°, -, -; Me, Ph, Ph, 204°, 338, 4.42; Ph, Ph, Ph, 230°, 344, 4.50; H, Ph, Ph, 235°, -, -; H, H, Ph, 229°, -, -. Solns. of these compds. in org. solvents show bluish fluorescence. The compds. are optical brighteners. Numerous procedures are given for incorporating them into c cellulose acetate and various synthetic fibers.

IT 22240-94-4, 2,2'-Stilbenedisulfonic acid,
4,4'-bis[[4-(benzylamino)-6-chloro-s-triazin-2-yl]amino]-, disodium salt 22241-08-3, 2,2'-Stilbenedisulfonic acid,
4,4'-bis[[4-chloro-6-[(α-methylbenzyl)amino]-s-triazin-2-yl]amino]-, disodium salt 22546-53-8, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-chloro-6-[(p-methylbenzyl)amino]-s-triazin-2-yl]amino]-, disodium salt 105818-79-9, 2,2'-Stilbenedisulfonic acid,
4,4'-bis[[4-chloro-6-[(α-(hydroxymethyl)-benzyl)amino]-s-triazin-2-yl]amino]-, disodium salt
(prepn. of)

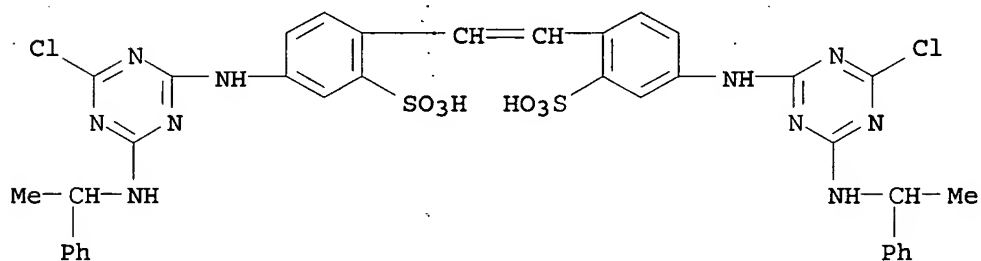
RN 22240-94-4 HCAPLUS

CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-(benzylamino)-6-chloro-s-triazin-2-yl]amino]-, disodium salt (7CI, 8CI) (CA INDEX NAME)



●2 Na

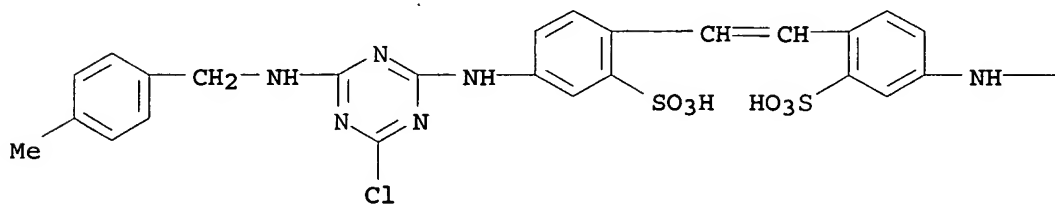
RN 22241-08-3 HCAPLUS
 CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-chloro-6-[(α -methylbenzyl)amino]-s-triazin-2-yl]amino]-, disodium salt (7CI, 8CI)
 (CA INDEX NAME)



●2 Na

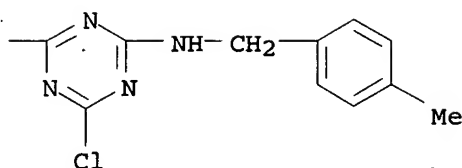
RN 22546-53-8 HCAPLUS
 CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-chloro-6-[(p-methylbenzyl)amino]-s-triazin-2-yl]amino]-, disodium salt (7CI, 8CI)
 (CA INDEX NAME)

PAGE 1-A



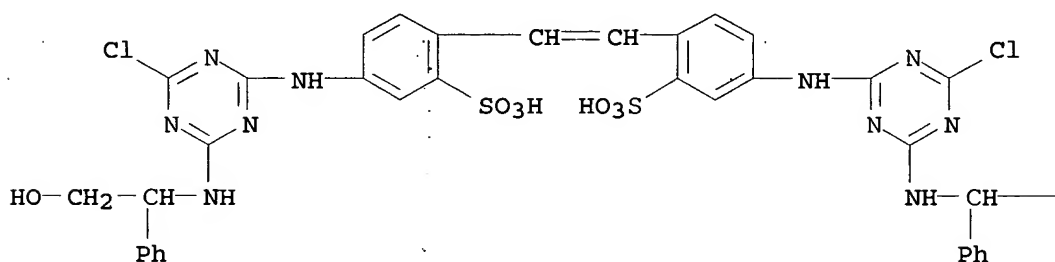
●2 Na

PAGE 1-B



RN 105818-79-9 HCAPLUS
 CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-chloro-6-[[α-(hydroxymethyl)benzyl]amino]-s-triazin-2-yl]amino]-, disodium salt (7CI) (CA INDEX NAME)

PAGE 1-A



● 2 Na

PAGE 1-B

—CH₂—OH

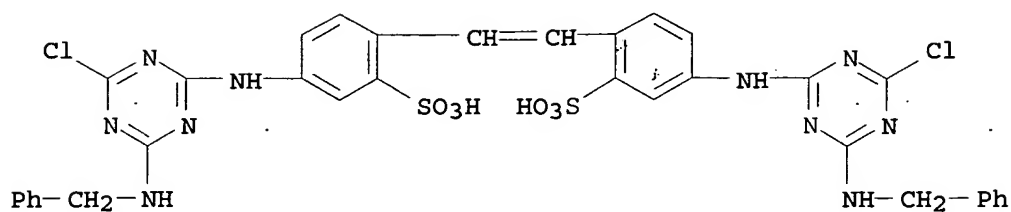
CC 46 (Dyes)
 IT 22240-94-4, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-(benzylamino)-6-chloro-s-triazin-2-yl]amino]-, disodium salt 22241-08-3, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-chloro-6-[(α-methylbenzyl)amino]-s-triazin-2-yl]amino]-, disodium salt 22546-53-8, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-chloro-6-[(p-methylbenzyl)amino]-s-triazin-2-yl]amino]-, disodium salt 105818-79-9, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-chloro-6-[[α-(hydroxymethyl)-benzyl]amino]-s-triazin-2-yl]amino]-, disodium salt (prepn. of)

L47 ANSWER 25 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1963:475800 HCAPLUS
 DOCUMENT NUMBER: 59:75800
 ORIGINAL REFERENCE NO.: 59:14144e-g
 TITLE: Bis(triazinylamino)stilbenes
 PATENT ASSIGNEE(S): J. R. Geigy A.-G.
 SOURCE: 14 pp.
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
BE 620472		19630121	BE	
CH 394222			CH	
FR 1329354			FR	
GB 969402			GB	
PRIORITY APPLN. INFO.:			CH	

196107
21

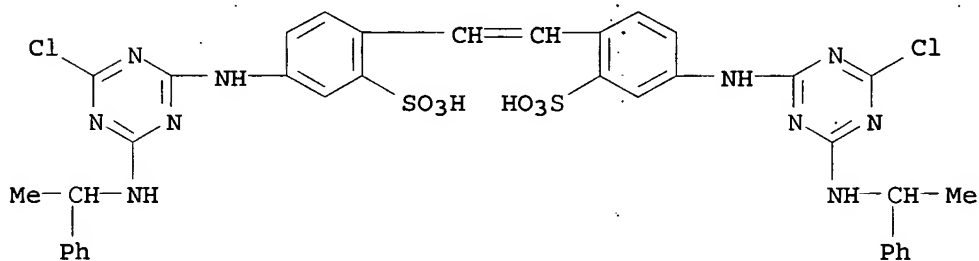
GI For diagram(s), see printed CA Issue.
 AB Compds. of the general structure I are **brighteners** for polyamide fibers. To a stirred suspension of cyanuric chloride (II) obtained by stirring a soln. of 37 parts II in 350 vols. Me2CO into iced H2O 900 parts, was added at 0° in 1 hr. a soln. of [4,2H2N(NaO3S)C6H3CH:]2 41.4 and Na2CO3 11 in H2O 600 parts. To the yellow suspension formed, a soln. of 22.5 parts PhCH2NH2 in 50 vols. Me2CO was added dropwise in 3-5 hrs. at pH 7.5-8 and 25-30°. The mixt. was then stirred 3 hrs. at 35°, the pH being kept at 7.5-8 by addn. of aq. Na2CO3 soln., cooled, filtered, and dried under reduced pressure at 70° to give I (R = H), a yellow powder, sol. in H2O, which **whitens** nylon front an acid bath. Similarly prepd. were I (R = Me) and I (R = CH2-OH).
 IT 22240-94-4, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-(benzylamino)-6-chloro-s-triazin-2-yl]amino]-, disodium salt 22241-08-3, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-chloro-6-[(α -methylbenzyl)amino]-s-triazin-2-yl]amino]-, disodium salt 22546-53-8, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-chloro-6-[(p-methylbenzyl)amino]-s-triazin-2-yl]amino]-, disodium salt 105818-79-9, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-chloro-6-[(α -(hydroxymethyl)-benzyl)amino]-s-triazin-2-yl]amino]-, disodium salt (prepn. of)
 RN 22240-94-4 HCAPLUS
 CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-(benzylamino)-6-chloro-s-triazin-2-yl]amino]-, disodium salt (7CI, 8CI) (CA INDEX NAME)



●2 Na

RN 22241-08-3 HCAPLUS

CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-chloro-6-[(alpha-methylbenzyl)amino]-s-triazin-2-yl]amino]-, disodium salt (7CI, 8CI)
(CA INDEX NAME)

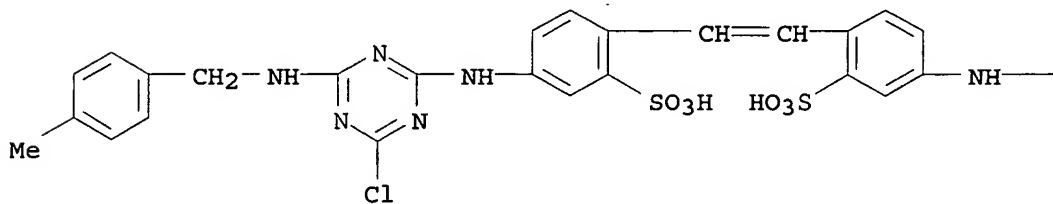


●2 Na

RN 22546-53-8 HCAPLUS

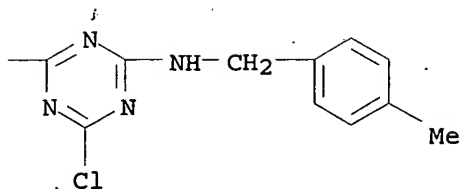
CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-chloro-6-[(p-methylbenzyl)amino]-s-triazin-2-yl]amino]-, disodium salt (7CI, 8CI)
(CA INDEX NAME)

PAGE 1-A



●2 Na

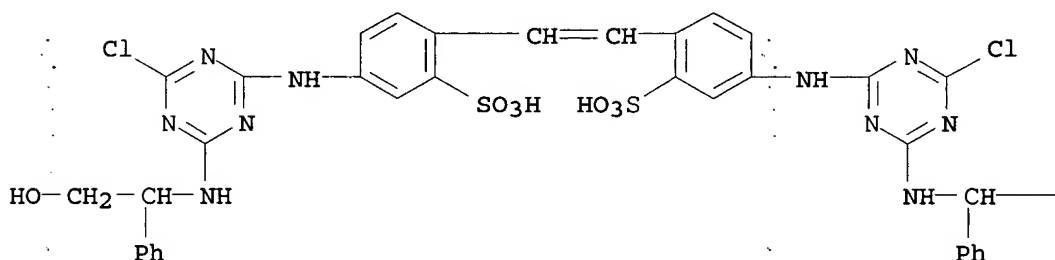
PAGE 1-B



RN 105818-79-9 HCAPLUS

CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-chloro-6-[[α-(hydroxymethyl)benzyl]amino]-s-triazin-2-yl]amino]-, disodium salt (7CI) (CA INDEX NAME)

PAGE 1-A



● 2 Na

PAGE 1-B

—CH₂—OH

CC 46 (Dyes)

IT Bleaching agents

(fluorescent or optical, 4,4'-

bis[[4-(benzylamino)-6-chloro-s-triazin-2-yl]amino]stilbenedisulfonic acid

derivs. as, for nylon)

IT Nylon

(optical brighteners for)

IT 22240-94-4, 2,2'-Stilbenedisulfonic acid,

4,4'-bis[[4-(benzylamino)-6-chloro-s-triazin-2-yl]amino]-, disodium

salt 22241-08-3, 2,2'-Stilbenedisulfonic acid,

4,4'-bis[[4-chloro-6-[(α-methylbenzyl)amino]-s-triazin-2-

yl]amino]-, disodium salt 22546-53-8, 2,2'-

Stilbenedisulfonic acid, 4,4'-bis[[4-chloro-6-(p-

methylbenzyl) amino]-s-triazin-2-yl]amino]-, disodium salt
 105818-79-9, 2,2'-Stilbenedisulfonic acid,
 4,4'-bis[[4-chloro-6-[[α -(hydroxymethyl)-benzyl]amino]-s-
 triazin-2-yl]amino]-, disodium salt
 (prepn. of)

L47 ANSWER 26 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1962:449371 HCAPLUS
 DOCUMENT NUMBER: 57:49371
 ORIGINAL REFERENCE NO.: 57:9864c-d
 TITLE: Stilbene derivatives
 INVENTOR(S): Hayakawa, Ginhichiro; Obizu, Takeo
 PATENT ASSIGNEE(S): Nisso Chemical Industries Co., Ltd.
 SOURCE: 1 p.
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 36018531		19611006	JP	196003 15

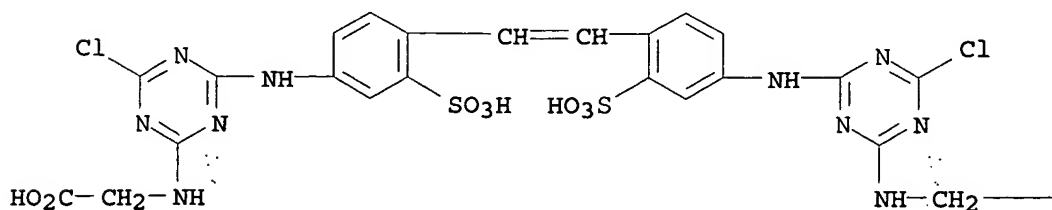
AB A soln. of 3.7 g. cyanuric chloride in 20 cc. Me₂CO is poured into 100 cc. ice H₂O, an aq. soln. contg. 3.7 g. 4,4'-diaminostilbene-2,2'-disulfonic acid is added, the mixt. kept at 0-5° for 3 hrs. (soln. kept neutral), then 3.0 g. glycine and an aq. soln. contg. 2.2 g. Na₂CO₃ added, stirred at 40-5° for 6 hrs., neutralized, 20 g. NaCl added, filtered, the resulting mass washed with NaCl soln., and dried at 40-50° in vacuo to give di-Na 4,4'-bis(2-carboxymethylamino-4-chloro-1,3,5-triazin-6-ylamino)stilbene-2,2'-disulfonate, pale yellow powder, useful as an optical bleaching agent.

IT 101174-12-3, Glycine, N,N'-[vinylenebis[(3-sulfo-p-phenylene)-imino(6-chloro-s-triazine-4,2-diyl)]]di-, disodium salt (prepn. of)

RN 101174-12-3 HCAPLUS

CN Glycine, N,N'-[1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino(6-chloro-1,3,5-triazine-4,2-diyl)]]bis-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

PAGE 1-B

—CO₂H

CC 32 (Heterocyclic Compounds-More than One Hetero Atom)
IT Bleaching agents
(fluorescent or optical, stilbene derivs. as)
IT 101174-12-3, Glycine, N,N'-[vinylenebis[(3-sulfo-p-phenylene)-imino(6-chloro-s-triazine-4,2-diyl)]]di-, disodium salt (prepn. of)

L47 ANSWER 27 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1957:21987 HCAPLUS
DOCUMENT NUMBER: 51:21987
ORIGINAL REFERENCE NO.: 51:4446i,4447a-d
TITLE: 4,4'-Diaminostilbenes
INVENTOR(S): Gold, Heinrich; Petersen, Siegfried
PATENT ASSIGNEE(S): Farbenfabriken Bayer A.-G.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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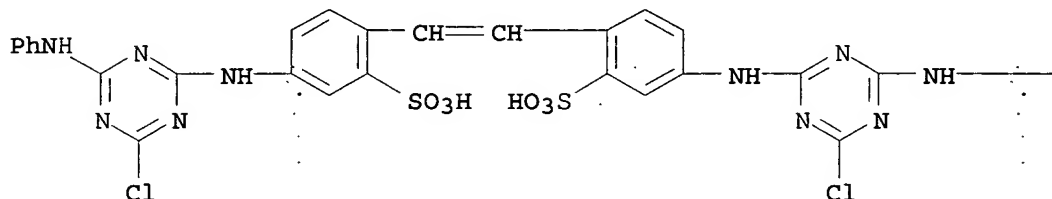
US 2764583		19560925	US	

AB In addn. to the compds. prepd. in Brit. 695,609 (C.A. 48, 10773h), similar compds. were prepd. as follows. To di-Na 4-(4-anilino-6-chloro-s-triazin-2-ylamino)-4'-(4,6-dichloro-s-triazin-2-ylamino)-2,2'-stilbenedisulfonate (I), prepd. from cyanuric chloride and 4,4'-diaminostilbene-2,2'-disulfonic acid, was added 2,5-(4-H₂NC₆H₄CONH)(AcNH)C₆H₃SO₃Na 50 in water 200, the mixt. heated to 60°, kept neutral to weakly acid by adding 10% aq. Na₂CO₃ 75, and the resultant ppt. filtered off and dried to give the mono-4-[2,4-HO₃S(AcNH)C₆H₃]NHCO-C₆H₄NH analog (C₄₁H₂₉Cl₂N₁₂Na₃O₁₁S₃) of I (II) 160 parts, weakly yellow powder. II 150 parts suspended in water 2000 parts, treated with HOCH₂CH₂NH₂ (III 30 parts at 95-100° over 2 hrs., NaCl 600 parts added at 95-100°, and the ppt. formed sepd. by filtration at 50°, and dried gave the mono-HOCH₂CH₂NH analog (C₄₃H₃₅Cl₂N₁₃-Na₃O₁₂S₃) of II 164 parts, pale yellow powder. Replacing III with 33% aq. MeNH₂ 250 parts or 39.5% aq. EtNH₂ 230 parts in the above reaction gave the corresponding products; 168 parts and 152 parts, resp., pale yellow powders. Di-Na 4-(6-chloro-4-toluidino-s-triazin-2-ylamino)-4'-(4,6-dichloro-s-triazin-2-ylamino)-2,2'-stilbenedisulfonate (IV) treated with 2,5-(4-H₂NC₆H₄CONH)(EtNH)C₆H₃SO₃Na and the resultant intermediate compd. treated with aq. Na₂CO₃ gave the mono-4-[2,4-HO₃S(EtNH)C₆H₃]NHCO-C₆H₄NH analog (C₄₂H₃₁Cl₂N₁₂Na₃O₁₁S₃) of IV, pale grey powder. I and 2,5-(4-H₂NC₆H₄CONH)(PhNH)C₆H₃SO₃Na treated as above and the intermediate compd. treated with III gave the

mono-HOCH₂CH₂NH mono-4-[2,4-HO₃S-(PhNH) C₆H₃]NHCOC₆H₄NH analog (C₄₇H₃₇ClN₁₃Na₃O₁₁S₃) of I, grayish yellow powder. Replacing III in the above reaction with 33% aq. MeNH₂ or 39.5% aq. EtNH₂ gave the corresponding products, grayish yellow powders. The compds. are bleaching agents.

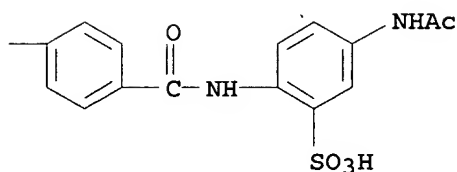
- IT 108696-33-9, 2,2'-Stilbenedisulfonic acid, 4-{{4-{p-[(4-acetamido-2-sulfophenyl)carbamoyl]anilino}-6-chloro-s-triazin-2-yl}amino}-4'-[(4-anilino-6-chloro-s-triazin-2-yl)amino]-, trisodium salt (prepn. of)
- RN 108696-33-9 HCAPLUS
- CN 2,2'-Stilbenedisulfonic acid, 4-[[4-[p-[(4-acetamido-2-sulfophenyl)carbamoyl]anilino]-6-chloro-s-triazin-2-yl]amino]-4'-[(4-anilino-6-chloro-s-triazin-2-yl)amino]-, trisodium salt (6CI) (CA INDEX NAME)

PAGE 1-A



● 3 Na

PAGE 1-B



- CC 10 (Organic Chemistry)
- IT Bleaching agents (fluorescent or optical, 4,4'-diamino-2,2'-stilbenedisulfonic acid derivs.)
- IT 108017-34-1, 2,2'-Stilbenedisulfonic acid, 4-{{4-{p-[(4-acetamido-2-sulfophenyl)carbamoyl]anilino}-6-methylamino-s-triazin-2-yl}amino}-4'-[(4-anilino-6-methylamino-s-triazin-2-yl)amino]-, trisodium salt 108039-36-7, 2,2'-Stilbenedisulfonic acid, 4-[(4-anilino-6-ethylamino-s-triazin-2-yl)amino]-4'-{{4-{p-[(4-anilino-2-sulfophenyl)carbamoyl]anilino}-6-ethylamino-s-triazin-2-yl}amino}-, trisodium salt 108625-64-5, 2,2'-Stilbenedisulfonic acid, 4-{{4-amino-6-{p-[(4-amino-2-sulfophenyl)carbamoyl]anilino}-s-triazin-2-yl}amino}-4'-[(4-amino-6-anilino-s-triazin-2-yl)amino]-, trisodium salt 108627-31-2, 2,2'-Stilbenedisulfonic acid, 4-[(4-anilino-6-methylamino-s-triazin-2-yl)amino]-4'-{{4-{p-[(4-anilino-2-sulfophenyl)carbamoyl]anilino}-6-methylamino-s-triazin-2-

yl}amino}-, trisodium salt 108696-31-7, 2,2'-Stilbenedisulfonic acid, 4-{{4-{p-[(5-ethylamino-2-sulfophenyl)carbamoyl]anilino}-6-hydroxy-s-triazin-2-yl}amino}-4'-[(4-hydroxy-6-p-toluidino-s-triazin-2-yl)amino]-, trisodium salt 108696-33-9, 2,2'-Stilbenedisulfonic acid, 4-{{4-{p-[(4-acetamido-2-sulfophenyl)carbamoyl]anilino}-6-chloro-s-triazin-2-yl}amino}-4'-[(4-anilino-6-chloro-s-triazin-2-yl)amino]-, trisodium salt 109129-42-2, 2,2'-Stilbenedisulfonic acid, 4-{{4-{p-[(4-acetamido-2-sulfophenyl)carbamoyl]anilino}-6-ethylamino-s-triazin-2-yl}amino}-4'-[(4-anilino-6-ethylamino-s-triazin-2-yl)amino]-, trisodium salt 121815-63-2, 2,2'-Stilbenedisulfonic acid, 4-[(4-chloro-6-p-toluidino-s-triazin-2-yl)amino]-4'-[(4,6-dichloro-s-triazin-2-yl)amino]-, disodium salt 122388-18-5, 2,2'-Stilbenedisulfonic acid, 4-[(4-anilino-6-chloro-s-triazin-2-yl)amino]-4'-[(4,6-dichloro-s-triazin-2-yl)amino]-, disodium salt (prepn. of)

L47 ANSWER 28 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1955:75833 HCAPLUS
DOCUMENT NUMBER: 49:75833
ORIGINAL REFERENCE NO.: 49:14355a-c
TITLE: Cleaning **compositions** for fibers and textiles
PATENT ASSIGNEE(S): C I B A Ltd.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

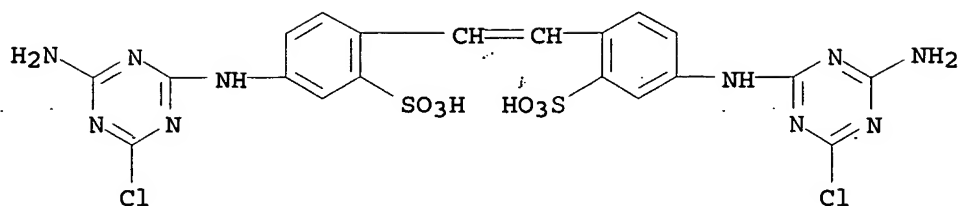
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CH 287194		19530316	CH	

AB New cleansing agents are described for washing and bleaching colored, uncolored, or coated N-contg. synthetic and natural fibers. These agents are derivs. of 4,4'-bis(4-amino-6-chloro-s-triazin-2-ylamino)-2,2'-stilbenedisulfonic acid. Water-sol. salts of such acids can also be used. Such compds. have unusual affinity for vegetable and animal fibers, causing them to fluoresce in ultraviolet light, and thus to increase the **white** appearance of uncolored materials and the **brightness** of colored materials. Thus, 100 parts of a liquid soap contg. 50-60% fatty acid were mixed and allowed to cool with 0.05-0.5 parts di-Na salt of 4,4'-bis(4-chloro-6-ethylamino-s-triazin-2-ylamino)-2,2'-stilbenedisulfonic acid. Textiles washed with the resulting compd. had a much cleaner and fresher appearance than those washed with the original soap alone.

IT 56682-91-8, 2,2'-Stilbenedisulfonic acid, 4,4'-bis(4-amino-6-chloro-s-triazin-2-ylamino)- (derivs., detergents)

RN 56682-91-8 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[(4-amino-6-chloro-1,3,5-triazin-2-yl)amino]- (9CI) (CA INDEX NAME)



INCL 24A

CC 27 (Fats, Fatty Oils, Waxes, and Detergents)

IT Cleaning compositions

(4,4'-bis(4-amino-6-chloro-s-triazin-2-ylamino)-2,2'-stilbenedisulfonic acid derivs.)

IT Rayon and other artificial fibers

(bleaching and cleaning compns. for, 4,4'-bis(4-amino-6-chloro-s-triazin-2-ylamino)-2,2'-stilbenedisulfonic acid derivs.)

IT Fibers

(cleaning compns. for)

IT Bleaching agents

(fluorescent or optical, 4,4'-bis(4-amino-6-chloro-s-triazin-2-ylamino)-2,2'-stilbenedisulfonic acid derivs.)

IT 56682-91-8, 2,2'-Stilbenedisulfonic acid, 4,4'-bis(4-amino-6-chloro-s-triazin-2-ylamino)-(derivs., detergents)

L47 ANSWER 29 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1950:50706 HCAPLUS

DOCUMENT NUMBER: 44:50706

ORIGINAL REFERENCE NO.: 44:9692g-i

TITLE: Stilbene derivatives for whitening textiles

INVENTOR(S): Adams, Dennis A. W.; Wilson, Robert H.

PATENT ASSIGNEE(S): Imperial Chemical Industries Ltd.

DOCUMENT TYPE: Patent

LANGUAGE: Unavailable

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
GB 623849		19490524	GB	

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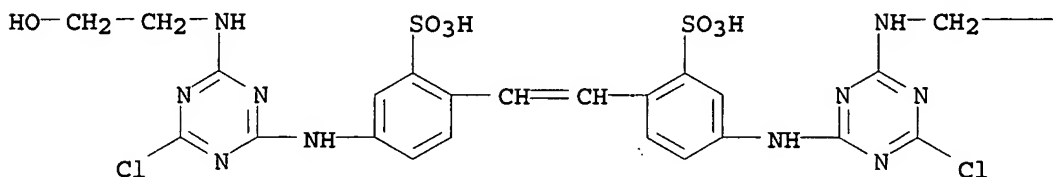
AB An improved optical bleach is prepd. by stirring 4,4'-diamino-2,2'-stilbenedisulfonic acid 37 with H₂O 240 parts and 0.2 mols. NaOH, then adding the soln. during 30 min. to a suspension of cyanuric chloride 36.8 and acetone 92 in H₂O 1600 parts. The mixt. is stirred at 20-5° for 2 hrs. and then neutralized with 10% NaOH 80 parts. HOCH₂CH₂NH₂ 30 parts is added, and the mixt. heated at 50° for 1 hr. The pale yellow Na salt of 4,4'-bis[6-chloro-4-(2-hydroxyethylamino)-1,3,5-triazin-2-yl-amino]-2,2'-stilbenedisulfonic acid is pptd. with 400 parts NaCl and dried at 60°.

IT 194367-01-6, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[4-chloro-6-(2-hydroxyethylamino)-s-triazin-2-ylamino]-(prepn. of)

RN 194367-01-6 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-[(2-hydroxyethyl)amino]-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

—CH₂—OH

CC 25 (Dyes and Textiles Chemistry)
 IT Bleaching agents
 (fluorescent or optical, stilbenedisulfonic acid
 derivs.)
 IT 588-59-0, Stilbene
 (derivs., for whitening textiles)
 IT 194367-01-6, 2,2'-Stilbenedisulfonic acid,
 4,4'-bis[4-chloro-6-(2-hydroxyethylamino)-s-triazin-2-ylamino]-
 (prepn. of)

=> d 152 ibib abs hitstr hitind 1-2

L52 ANSWER 1 OF 2 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1996:171898 HCAPLUS
 DOCUMENT NUMBER: 124:204938
 TITLE: Anionic acid azo direct dyes, their preparation,
 their mixtures, and their use
 INVENTOR(S): Lauk, Urs
 PATENT ASSIGNEE(S): Ciba-Geigy A.-G., Switz.
 SOURCE: Eur. Pat. Appl., 71 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 693538	A2	19960124	EP 1995-810387	19950612
EP 693538	A3	19960605		
EP 693538	B1	20010822		
R: BE, CH, DE, ES, FR, GB, GR, IT, LI, PT				
US 5631352	A	19970520	US 1995-460174	19950602

ES 2161847	T3	20011216	ES 1995-810387	199506 12
PT 693538	T	20020130	PT 1995-810387	199506 12
JP 08003469	A2	19960109	JP 1995-146285	199506 13
CN 1133323	A	19961016	CN 1995-107363	199506 19
CN 1066178	B	20010523		
BR 9502861	A	19960604	BR 1995-2861	199506 20
GR 3036651	T3	20011231	GR 2001-401509	200109 18
PRIORITY APPLN. INFO.:			CH 1994-1952	A 199406 20

OTHER SOURCE(S): MARPAT 124:204938

AB Mixts. of ≥ 1 azo dye contg. 1 or 2 aminotriazine groups with ≥ 1 azo dye contg. 2 aminotriazine groups are direct dyes for cellulosics. They are high-temp.-stable and are esp. suited for 1-bath dyeing of polyester/cotton with incorporation of a polyester disperse dye under polyester dyeing conditions. Thus, 1 mol cyanuric chloride was condensed with 2 mol 7-amino-4-hydroxy-3-(4-methoxy-2-sulfophenylazo)-2-naphthalenesulfonic acid and then with 1 mol 1,3-diaminopropane to provide an aminotriazine disazo dye which dyed cotton in fast red shades. The dye could also be combined with another azo dye for application.

IT 174571-99-4

RL: TEM (Technical or engineered material use); USES (Uses)
(anionic acid azo direct dye mixts. for dyeing of cellulosics)

RN 174571-99-4 HCAPLUS

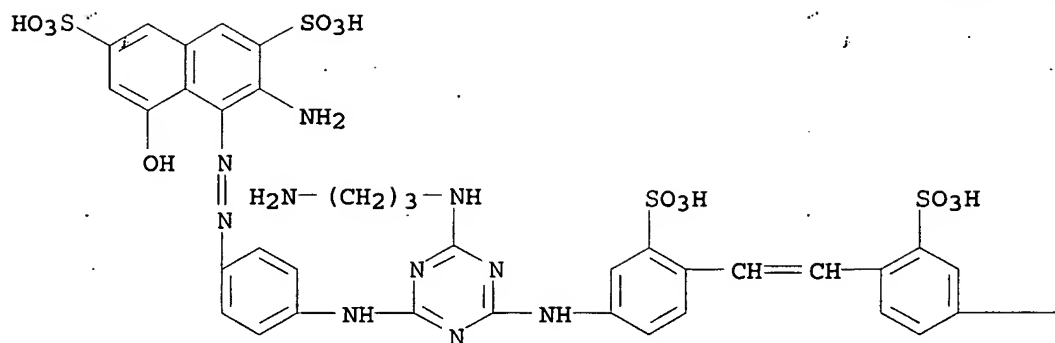
CN 2,7-Naphthalenedisulfonic acid, 4,4',4'',4'''-[1,3-propanediylbis(imino-1,3,5-triazine-6,2,4-triylbis(imino-4,1-phenyleneazo))]tetrakis[3-amino-5-hydroxy-, mixt. with 4,4'-[1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino[6-[(3-aminopropyl)amino]-1,3,5-triazine-4,2-diyl]imino-4,1-phenyleneazo]]bis[3-amino-5-hydroxy-2,7-naphthalenedisulfonic acid] (9CI) (CA INDEX NAME)

CM 1

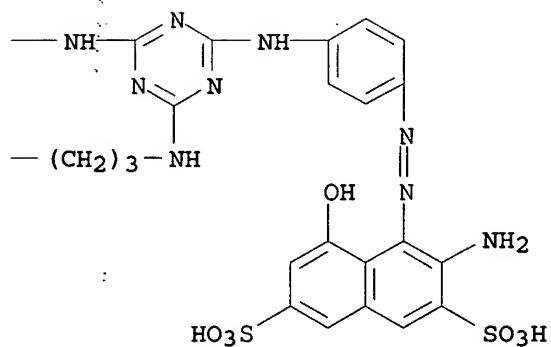
CRN 174571-98-3

CMF C58 H56 N20 O20 S6

PAGE 1-A

H₂N—

PAGE 1-B

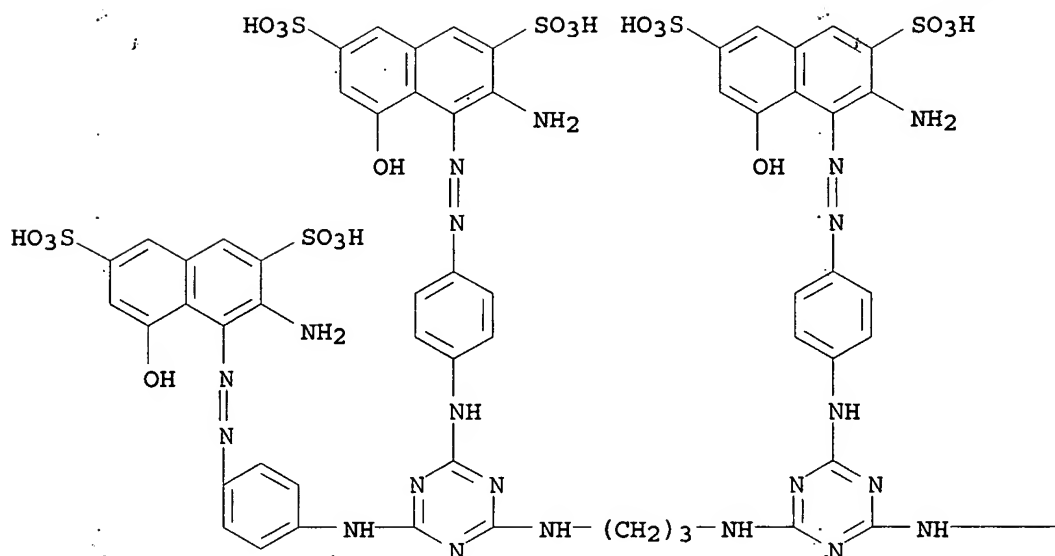


CM 2

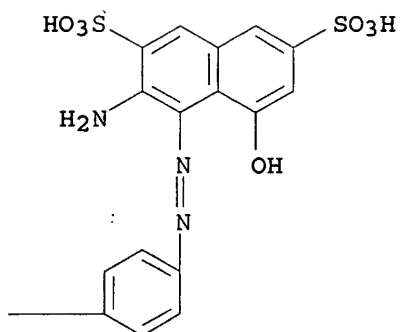
CRN 174571-96-1

CMF C73 H60 N24 O28 S8

PAGE 1-A



PAGE 1-B



IC ICM C09B067-22
 ICS C09B043-16
 CC 41-3 (Dyes, Organic Pigments, Fluorescent Brighteners, and
 Photographic Sensitizers)
 Section cross-reference(s): 40
 IT 174571-72-3 174571-74-5 174571-76-7 174571-79-0 174571-82-5
 174571-85-8 174571-88-1 174571-91-6 174571-94-9 174571-97-2
 174571-99-4
 RL: TEM (Technical or engineered material use); USES (Uses)
 (anionic acid azo direct dye mixts. for dyeing of cellulose)

L52 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1994:10317 HCAPLUS
 DOCUMENT NUMBER: 120:10317
 TITLE: Dye mixtures and their utilization
 INVENTOR(S): Schaulin, Rudolf; Lauk, Urs
 PATENT ASSIGNEE(S): Ciba-Geigy A.-G., Switz.
 SOURCE: Eur. Pat. Appl., 10 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 548014	A1	19930623	EP 1992-810966	19921208
EP 548014	B1	19970312		
R: BE, CH, DE, FR, GB, IT, LI				
US 5324330	A	19940628	US 1992-988539	19921210
JP 05279586	A2	19931026	JP 1992-353866	19921216
PRIORITY APPLN. INFO.:		CH 1991-3720	A	19911217

OTHER SOURCE(S): MARPAT 120:10317

AB Mixts. of a naphthol disazo dye (A) contg. a stilbene and 2 triazine groups and a naphthol disazo dye (B) contg. 1 triazine group are obtained for use in dyeing and printing of cotton and polyester-cellulosics. In an example, a 1:1.3 A-B mixt. of dyes contg. morpholinotriazine groups was used to dye cotton in a fast red shade.

IT 151802-27-6

RL: USES (Uses)
 (in dyeing of cotton)

RN 151802-27-6 HCAPLUS

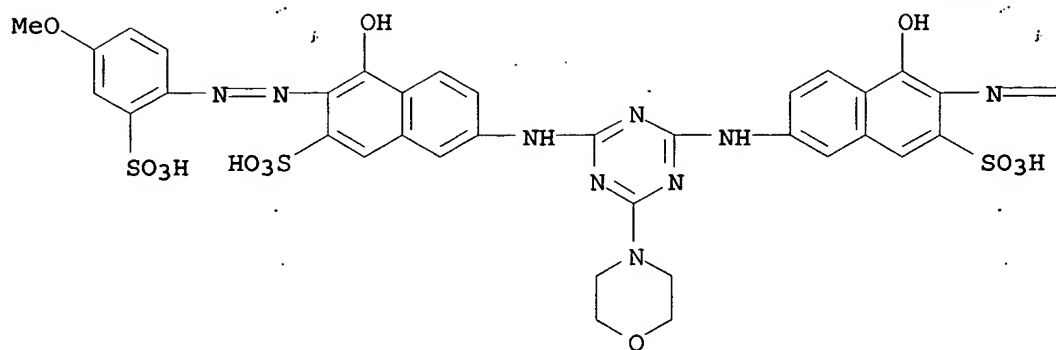
CN 2,7-Naphthalenedisulfonic acid, 4,4'-[1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino[6-(4-morpholinyl)-1,3,5-triazine-4,2-diyl]imino]]bis[5-hydroxy-6-(phenylazo)-, mixt. with 7,7'-[[6-(4-morpholinyl)-1,3,5-triazine-2,4-diyl]diimino]bis[4-hydroxy-3-[(4-methoxy-2-sulfo-phenyl)azo]-2-naphthalenesulfonic acid] (9CI) (CA INDEX NAME)

CM 1

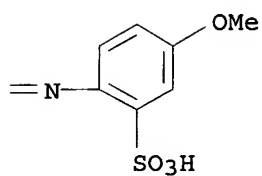
CRN 151802-26-5

CMF C41 H36 N10 O17 S4

PAGE 1-A



PAGE 1-B

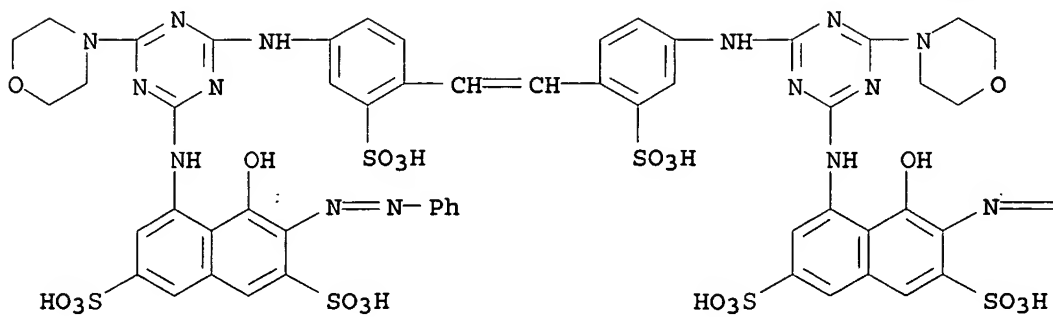


CM 2

CRN 151802-25-4

CMF C60 H52 N16 O22 S6

PAGE 1-A



PAGE 1-B

=N- Ph

IT 151802-28-7

RL: USES (Uses)

(in dyeing of polyester-cotton blends)

RN 151802-28-7 HCAPLUS

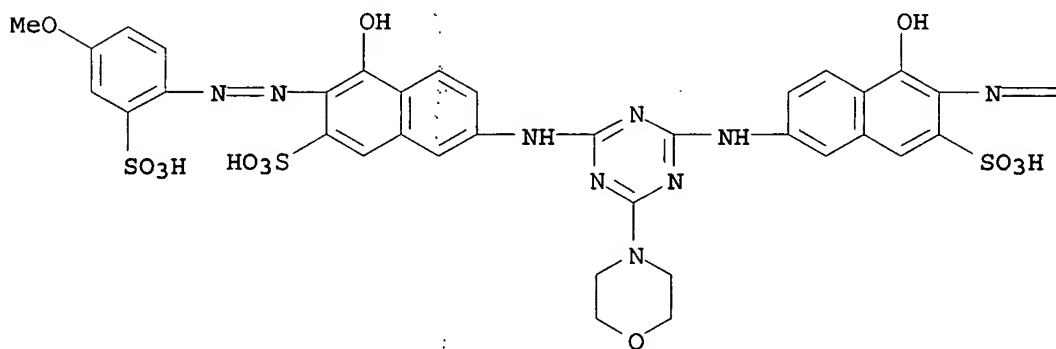
CN 2,7-Naphthalenedisulfonic acid, 4,4'-[1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino[6-(4-morpholinyl)-1,3,5-triazine-4,2-diyl]imino]]bis[5-hydroxy-6-(phenylazo)-, mixt. with 2-[[4-[bis[2-(acetyloxy)ethyl]amino]phenyl]azo]-5-nitrobenzonitrile and 7,7'-[[6-(4-morpholinyl)-1,3,5-triazine-2,4-diyl]diimino]bis[4-hydroxy-3-[(4-methoxy-2-sulfo)phenyl]azo]-2-naphthalenesulfonic acid] (9CI) (CA INDEX NAME)

CM 1

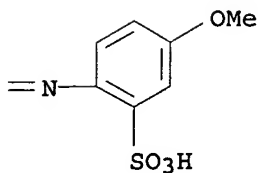
CRN 151802-26-5

CMF C41 H36 N10 O17 S4

PAGE 1-A



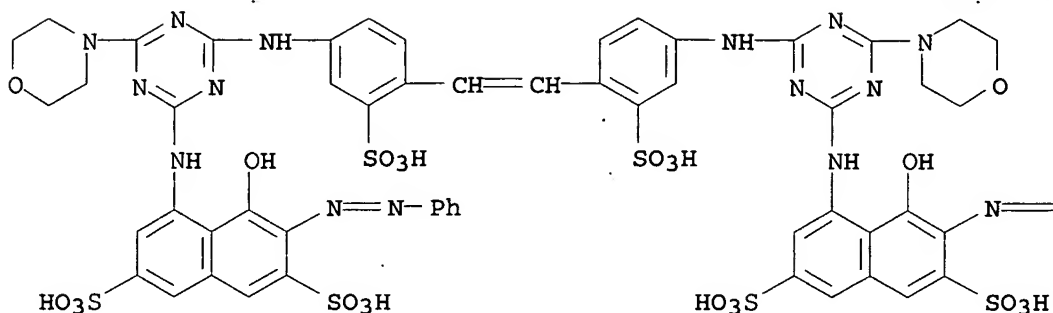
PAGE 1-B



CM 2

CRN 151802-25-4
CMF C60 H52 N16 O22 S6

PAGE 1-A

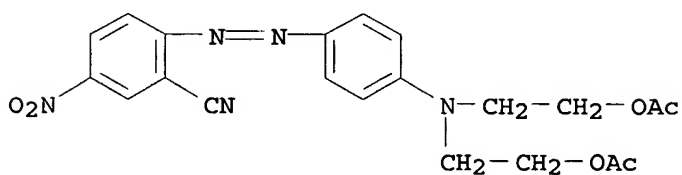


PAGE 1-B

=N-Ph

CM 3

CRN 30124-94-8
CMF C21 H21 N5 O6



IC ICM C09B067-22
CC 40-6 (Textiles and Fibers)
IT 151802-27-6
RL: USES (Uses)
(in dyeing of cotton)
IT 151802-28-7
RL: USES (Uses)
(in dyeing of polyester-cotton blends)

=> d l61 ibib abs hitstr hitind 1-5

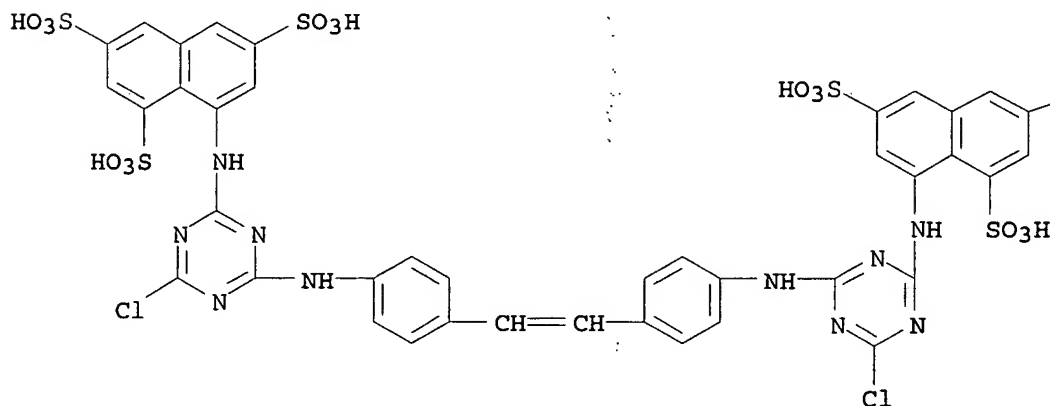
L61 ANSWER 1 OF 5 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1993:650300 HCAPLUS

MEI HUANG EIC1700 REM4B28 571-272-3952

08/17/2006

DOCUMENT NUMBER: 119:250300
 TITLE: Synthesis and spectral characterization of a rotaxane of β -cyclodextrin threaded by a 4,4'-diaminostilbene
 AUTHOR(S): Kunitake, Masashi; Kotoo, Kengo; Manabe, Osamu; Muramatsu, Tsuyoshi; Nakashima, Naotoshi
 CORPORATE SOURCE: Fac. Eng., Nagasaki Univ., Nagasaki, 852, Japan
 SOURCE: Chemistry Letters (1993), (6), 1033-6
 CODEN: CMLTAG; ISSN: 0366-7022
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB A rotaxane, in which a stilbene moiety threads the cavity of β -cyclodextrin (β -CyD), has been synthesized. The rotaxane structure has been proved by UV-visible and induced CD spectra.
 IT 151168-22-8P
 RL: SPN (Synthetic preparation); PREP (Preparation) (prepn. and condensation of, with benzylamine)
 RN 151168-22-8 HCAPLUS
 CN β -Cyclodextrin, compd. with 8,8'-[1,2-ethenediylbis[4,1-phenyleneimino(6-chloro-1,3,5-triazine-4,2-diyl)imino]]bis[1,3,6-naphthalenetrisulfonic acid] hexasodium salt (1:1) (9CI) (CA INDEX NAME)
 CM 1
 CRN 150966-91-9
 CMF C40 H28 Cl2 N10 O18 S6 . 6 Na

PAGE 1-A



● 6 Na

PAGE 1-B

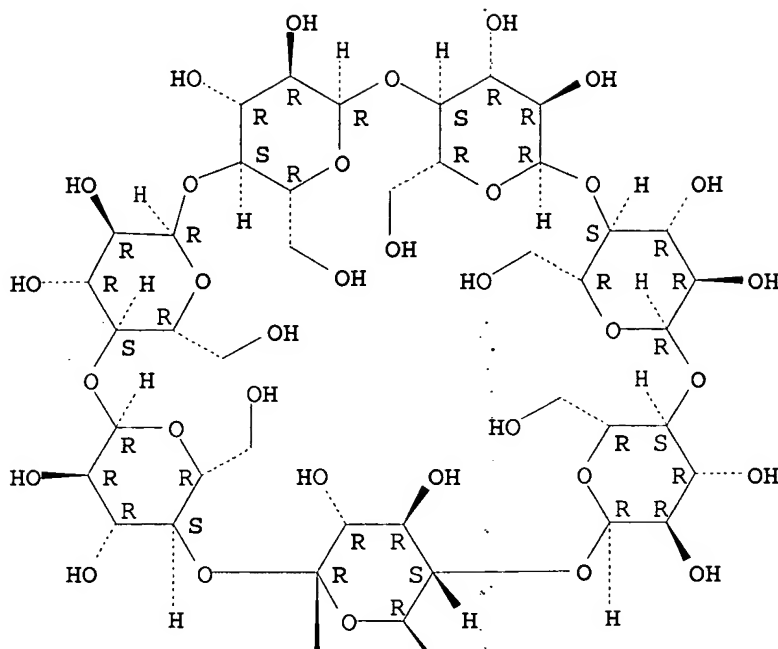
—SO₃H

CM 2

CRN 7585-39-9
CMF C42 H70 O35

Absolute stereochemistry.

PAGE 1-A



PAGE 2-A



CC 33-4 (Carbohydrates)
 Section cross-reference(s): 22
 IT 150966-91-9P 151168-22-8P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and condensation of, with benzylamine)

L61 ANSWER 2 OF 5 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1975:444027 HCAPLUS

DOCUMENT NUMBER: 83:44027

TITLE: s-Triazine ring-containing polycarbonates with functional groups

INVENTOR(S): Neurav, Dieter; Vernaleken, Hugo; Rudolph, Hans

PATENT ASSIGNEE(S): Bayer A.-G., Fed. Rep. Ger.

SOURCE: Ger. Offen., 53 pp.

CODEN: GWXXBX

MEI HUANG EIC1700 REM4B28 571-272-3952

08/17/2006

DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
DE 2346935	A1	19750403	DE 1973-2346935	197309 18
DE 2346935	C2	19820121		
CA 1046693	A1	19790116	CA 1974-207743	197408 26
BE 819942	A1	19750317	BE 1974-148550	197409 16
US 3957728	A	19760518	US 1974-506158	197409 16
IT 1019276	A	19771110	IT 1974-53022	197409 16
GB 1460205	A	19761231	GB 1974-40446	197409 17
NL 7412358	A	19750320	NL 1974-12358	197409 18
FR 2243960	A1	19750411	FR 1974-31556	197409 18
FR 2243960	B1	19790216		
JP 51010895	A2	19760128	JP 1974-106814	197409 18
JP 57061045	B4	19821222		
JP 56121636	A2	19810924	JP 1980-138869	198010 06
JP 58023825	A2	19830212	JP 1982-36713	198203 10
JP 60025049	B4	19850615		
PRIORITY APPLN. INFO.:			US 1973-397502	A2 197309 14
			DE 1973-2346935	A 197309 18

GI For diagram(s), see printed CA Issue.

AB Polycarbonates useful as adsorbents are prepd. from functionally substituted s-triazine deriv. diols. Thus, stirring bisphenol A 21.7, triazine I 1.27, NaOH 7.6, and NaBH₄ 0.2 g with 60 ml PhCl and 180 ml H₂O 4 hr at 90°, cooling, adding 0.43 g p-Me₃CC₆H₄OH chain-terminator, 120 ml CH₂Cl₂, and 10% HCl to pH 11-12, passing in 13.4 g COCl₂ over 30 min with intensive stirring at 24-7°

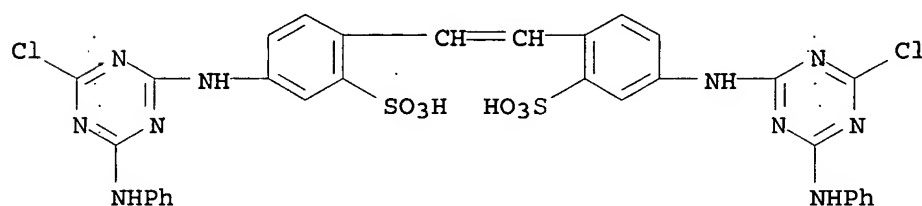
IT 55636-31-2P 55636-32-3P

(prepn. of)

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt, polymer with carbonic dichloride and 4,4'-(1-methylethylidene)bis[phenol] (9CI) (CA INDEX NAME)

CRN 37138-23-1

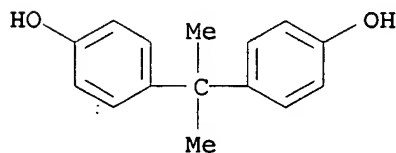
CMF C32 H24 Cl2 N10 O6 S2 . 2 Na



●₂ Na

CRN 80-05-7

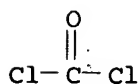
CMF C15 H16 O2



CM 3

CRN 75-44-5

CMF C C12 O



RN 55636-32-3 HCAPLUS

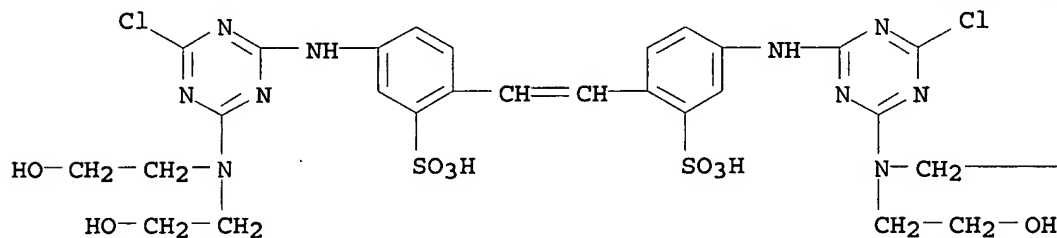
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[bis(2-hydroxyethyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]-, disodium salt, polymer with carbonic dichloride and 4,4'-(1-methylethylidene)bis[phenol] (9CI) (CA INDEX NAME)

CM 1

CRN 4028-32-4

CMF C28 H32 Cl2 N10 O10 S2 . 2 Na

PAGE 1-A



● 2 Na

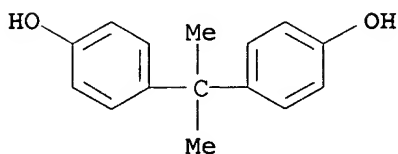
PAGE 1-B

—CH₂—OH

CM 2

CRN 80-05-7

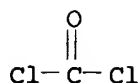
CMF C15 H16 O2



CM 3

CRN 75-44-5

CMF C Cl2 O



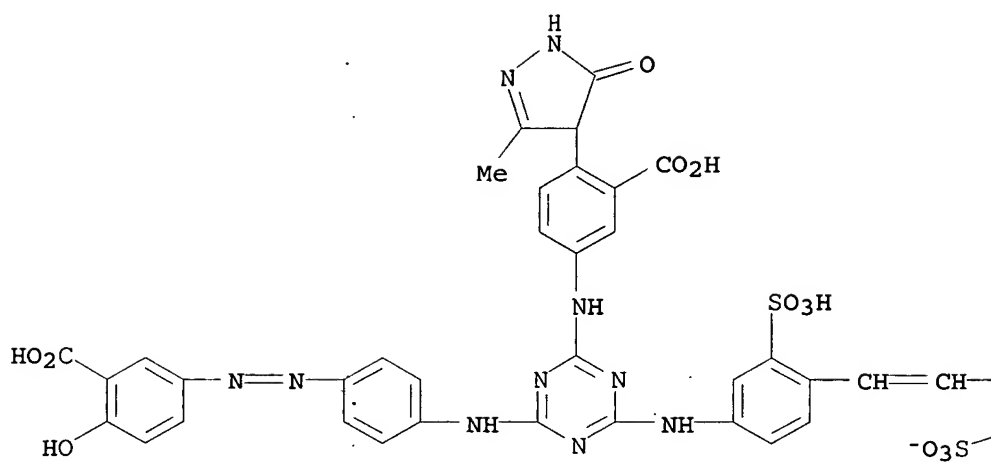
IC C08G; C07C
 CC 35-3 (Synthetic High Polymers)
 Section cross-reference(s): 28
 IT 34350-23-7P 51757-37-0P 55635-96-6P 55635-97-7P 55635-98-8P
 55636-30-1P 55636-31-2P 55636-32-3P
 55636-33-4P 55636-36-7P 55636-37-8P 55636-38-9P 55636-39-0P
 55636-42-5P 55636-43-6P 55636-44-7P 55636-45-8P 55653-42-4P
 RL: PREP (Preparation)
 (prepn. of)

L61 ANSWER 3 OF 5 HCAPLUS COPYRIGHT 2006 ACS on STN

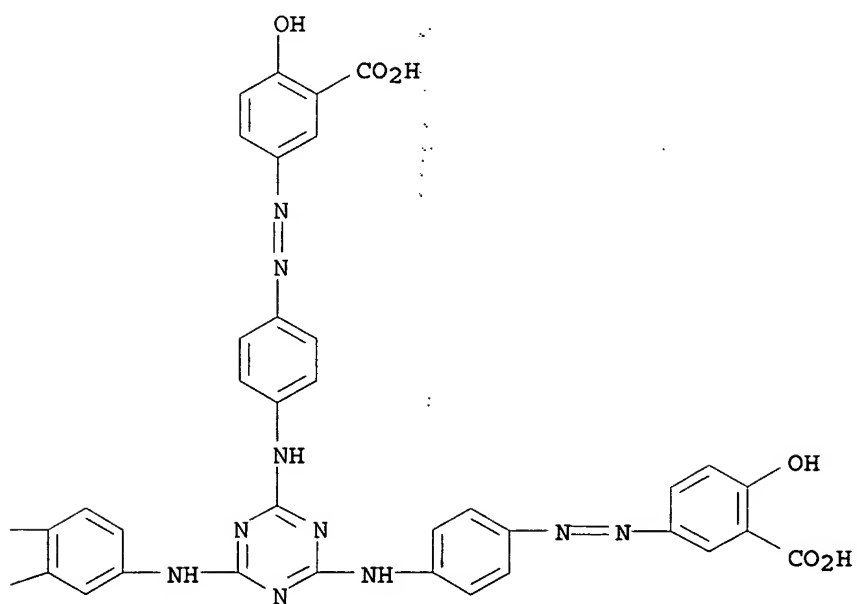
ACCESSION NUMBER: 1949:28337 HCAPLUS
 DOCUMENT NUMBER: 43:28337
 ORIGINAL REFERENCE NO.: 43:5195i,5196a
 TITLE: Polyazo dye
 PATENT ASSIGNEE(S): Soc. pour l'ind. chim. a Bale
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	CH 236529		19450702	CH	
AB	Addn. to III of a warm soln. of the Na salts of 5-(4-aminophenylazo)salicylic acid 87.1 and of 5-amino-2-(3-methyl-5-oxo-2-pyrazolin-4-ylazo)benzoic acid 26.1 in H ₂ O 1800 parts, etc., gives IV [R ₂ = R ₃ = R ₄ = 4-(4-hydroxy-3-carboxyphenylazo)anilino; R ₁ = 4-(3-methyl-5-oxo-2-pyrazolin-4-ylazo)-3-carboxyanilino], a red-brown powder, sol. in H ₂ O, dil. NaOH, and concd. H ₂ SO ₄ , dyes vegetable fibers and regenerated cellulose in yellow tones, improved by Cu salts.				
IT	858239-25-5, 2,2'-Stilbenedisulfonic acid, 4-[4,6-bis[p-(3-carboxy-4-hydroxyphenylazo)anilino]-s-triazin-2-ylamino]-4'-[4-[p-(3-carboxy-4-hydroxyphenylazo)anilino]-6-[3-carboxy-4-(3-methyl-5-oxo-2-pyrazolin-4-ylazo)-anilino]-s-triazin-2-ylamino]-, disodium salt (prepn. of)				
RN	858239-25-5 HCAPLUS				
CN	2,2'-Stilbenedisulfonic acid, 4-[4,6-bis[p-(3-carboxy-4-hydroxyphenylazo)anilino]-s-triazin-2-ylamino]-4'-[4-[p-(3-carboxy-4-hydroxyphenylazo)anilino]-6-[3-carboxy-4-(3-methyl-5-oxo-2-pyrazolin-4-ylazo)-anilino]-s-triazin-2-ylamino]-, disodium salt (5CI) (CA INDEX NAME)				

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PAGE 1-B



● Na⁺

PAGE 2-A

● Na

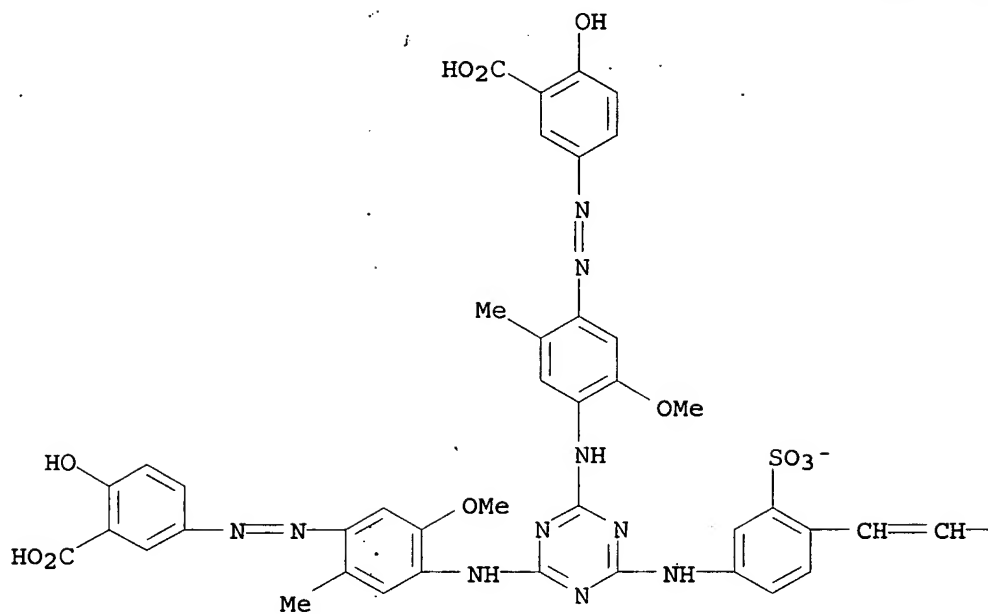
CC 25 (Dyes and Textiles Chemistry)
IT 858239-25-5, 2,2'-Stilbenedisulfonic acid,
4-[4,6-bis[p-(3-carboxy-4-hydroxyphenylazo)anilino]-s-triazin-2-ylamino]-4'-[4-[p-(3-carboxy-4-hydroxyphenylazo)anilino]-6-[3-carboxy-4-(3-methyl-5-oxo-2-pyrazolin-4-ylazo)-anilino]-s-triazin-2-ylamino]-, disodium salt
(prepn. of)

L61 ANSWER 4 OF 5 HCAPLUS COPYRIGHT 2006 ACS on STN

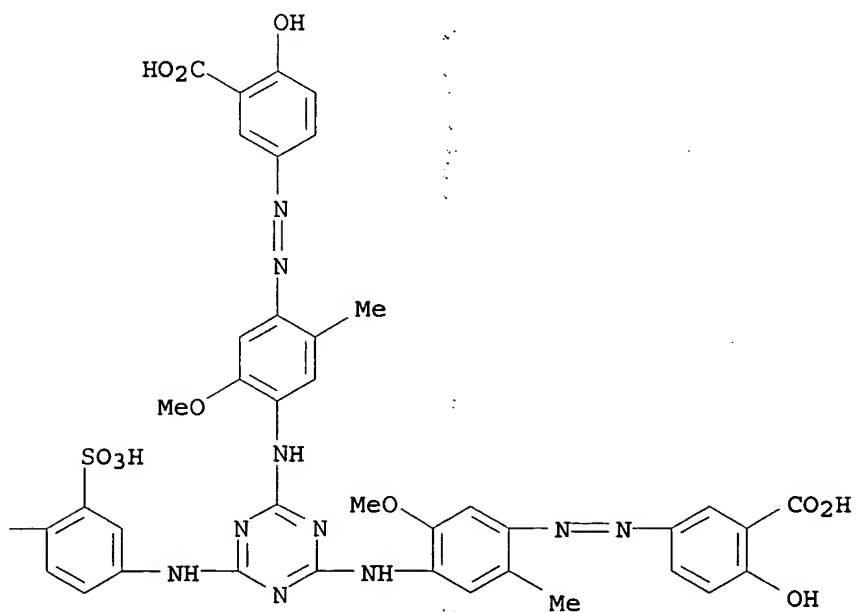
ACCESSION NUMBER: 1949:28336 HCAPLUS
DOCUMENT NUMBER: 43:28336
ORIGINAL REFERENCE NO.: 43:5195g-i
TITLE: Polyazo dye
PATENT ASSIGNEE(S): Soc. pour l'ind. chim. a Bale
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	
	CH 236528		19450702	CH	
AB	Cyanuric chloride (I) 36.8 and H2O 400 at 0° are treated with di-Na 4,4'-diamino-2,2'-stilbenedisulfonate (II) 37 in H2O 600 parts; the pale yellow, gelatinous condensation product pptd. is composed of 2 equivs. I and 1 of II. It is stirred about an hour at 0-5° with dropwise addn. of Na2CO3 15 in H2O 150 parts. To this suspension (III) is added a warm soln. of the Na salt 120.4 of 5-(2-methyl-4-amino-5-methoxyphenylazo) salicylic acid in H2O 1500 parts, the mixt. heated at 40-5° 2 hrs., the free acid neutralized with NaHCO3, and the temp. kept 2 hrs. at 95° with further addn. of NaHCO3 22 parts. Addn. of 50 parts NaCl and cooling to 50° ppts. the polyazo dye (IV) [R1 = R2 = R3 = R4 = 4-(3-carboxy-4-hydroxyphenylazo)-5-methyl-2-methoxyanilino], a brown powder, yellow-brown in dil. NaOH, deep brown in concd. H2SO4, and dyes vegetable fibers and regenerated cellulose yellow tones, improved in fastness by addn. of Cu salts.				
IT	860423-43-4, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[4,6-bis[4-(3-carboxy-4-hydroxyphenylazo)-5-methyl-o-anisidino]-s-triazin-2-ylamino]-, disodium salt (prepn. of)				
RN	860423-43-4 HCAPLUS				
CN	2,2'-Stilbenedisulfonic acid, 4,4'-bis[4,6-bis[4-(3-carboxy-4-hydroxyphenylazo)-5-methyl-o-anisidino]-s-triazin-2-ylamino]-, disodium salt (5CI) (CA INDEX NAME)				

PAGE 1-A



PAGE 1-B

● Na⁺

PAGE 2-A

● Na

INCL 37A

CC 25 (Dyes and Textiles Chemistry)

IT 860423-43-4, 2,2'-Stilbenedisulfonic acid,
4,4'-bis[4,6-bis[4-(3-carboxy-4-hydroxyphenylazo)-5-methyl-o-
anisidino]-s-triazin-2-ylamino]-, disodium salt
(prepn. of)

L61 ANSWER 5 OF 5 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1948:20266 HCAPLUS

DOCUMENT NUMBER: 42:20266

ORIGINAL REFERENCE NO.: 42:4354d-i,4355a-i,4356a-i,4357a-h

TITLE: Azo dyes

PATENT ASSIGNEE(S): Soc. pour l'ind. chim. a Bale

DOCUMENT TYPE: Patent

LANGUAGE: Unavailable

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
GB 595181		19471128	GB 1943-15996	19430929

GI For diagram(s), see printed CA Issue.

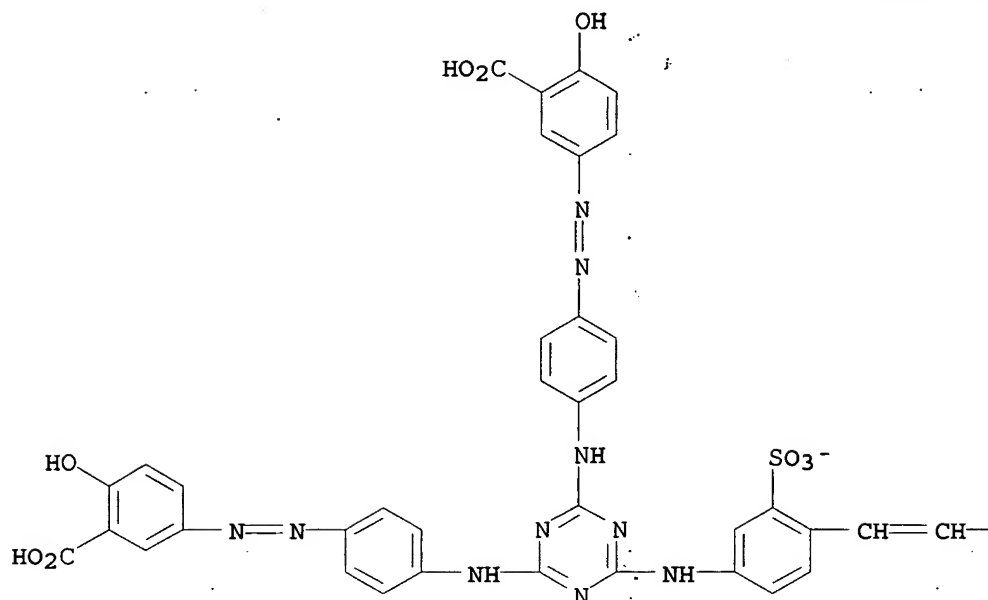
AB New yellow to orange and brown dyes, for cellulose or regenerated cellulose, improved by aftertreatment with metals, have the general formula in which 3 of the X's represent residues of aminoazo dyes of the formula NH₂YR:N'R', in which R and R' represent aromatic nuclei of the benzene series with the -NH₂Y and N:N groups para to each other, R' contg. an OH group ortho to the CO₂H group and Y represents a direct linkage between NH₂ and R or an atomic grouping in which one Z represents the linkage between this group and NH₂ and the other a H atom in which the -NH-group is attached to R, and the other X represents the residue of an aminoazo dye. Cyanuric chloride 2 and diNa 4,4'-diamino-2,2'-stilbenedisulfonate 1 mol. give an insol. pale yellow gelatinous product which is treated with Na₂CO₃ soln. and then with a 1:15 soln. of Na 4'-amino-4-hydroxy-3-azobenzenecarboxylate and the product neutralized with Na₂CO₃, yielding I, a brownish yellow powder which dyes vegetable fibers and regenerated cellulose fibers yellow tints rendered very fast to washing by aftertreatment with copper. Other dyes of this series analogously prepd. are II-VIII:II dyes cotton a pure greenish yellow, made redder and stronger by coppering; III dyes cotton a pure yellow, made slightly redder and stronger by coppering; IV dyes cotton a greenish yellow, made redder and stronger by coppering; V or Va dyes cotton a green-yellow, made somewhat redder by coppering; VI dyes cotton yellow orange, made red-yellow by coppering; VII dyes cotton a violet, made red-brown by coppering, and VIII dyes cotton a greenish yellow, made somewhat redder and stronger by coppering.

IT 860423-47-8, 2,2'-Stilbenedisulfonic acid,
4,4'-bis[4,6-bis[p-(3-carboxy-4-hydroxyphenylazo)anilino]-s-triazin-2-ylamino]-, disodium salt
(prepn. of)

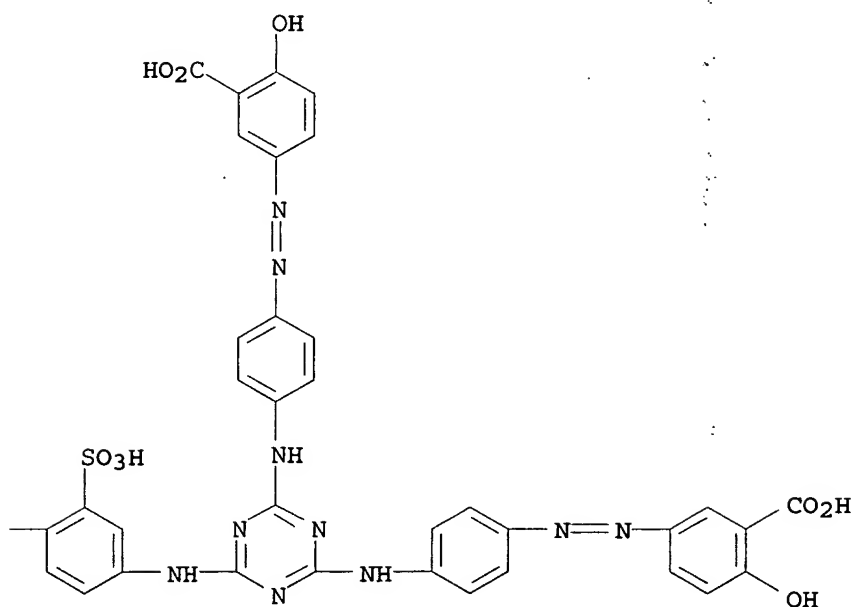
RN 860423-47-8 HCAPLUS

CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[4,6-bis[p-(3-carboxy-4-hydroxyphenylazo)anilino]-s-triazin-2-ylamino]-, disodium salt (5CI)
(CA INDEX NAME)

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● Na⁺

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● Na

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IT 858239-19-7, 2,2'-Stilbenedisulfonic acid, 4-[4,6-bis[p-(3-carboxy-4-hydroxyphenylazo)anilino]-s-triazin-2-ylamino]-4'-[4-[p-(3-carboxy-4-hydroxyphenylazo)anilino]-6-[p-(p-sulfophenylazo)anilino]-s-triazin-2-ylamino]- 858239-28-8, 2,2'-Stilbenedisulfonic acid, 4-[4,6-bis[p-(3-carboxy-4-hydroxyphenylazo)anilino]-s-triazin-2-ylamino]-4'-[4-[p-(3-carboxy-4-hydroxyphenylazo)anilino]-6-[3-carboxy-4-(3-methyl-5-oxo-2-pyrazolin-4-ylazo)-anilino]-s-triazin-2-ylamino]- 858239-32-4, 2,2'-Stilbenedisulfonic acid, 4-[4,6-bis[p-(3-carboxy-4-hydroxyphenylazo)anilino]-s-triazin-2-ylamino]-4'-[4-[p-(3-carboxy-4-hydroxyphenylazo)anilino]-6-[p-[4-[(3-carboxy-4-hydroxy-5-sulfophenylazo)-6-methoxy-m-tolyl]carbamoyl]anilino]-s-triazin-2-ylamino]- 858239-34-6, 2,2'-Stilbenedisulfonic acid, 4-[4,6-bis[p-(3-carboxy-4-hydroxyphenylazo)anilino]-s-triazin-2-ylamino]-4'-[4-[3-carboxy-4-(3-carboxy-2-hydroxy-1-naphthylazo)anilino]-6-[p-(3-carboxy-4-hydroxyphenylazo)-anilino]-s-triazin-2-ylamino]- 858239-37-9, 2,2'-Stilbenedisulfonic acid, 4-[4,6-bis[p-(3-carboxy-4-hydroxyphenylazo)anilino]-s-triazin-2-ylamino]-4'-[4,6-bis[p-[4-[(3-carboxy-4-hydroxy-5-sulfophenylazo)-6-methoxy-m-tolyl]carbamoyl]anilino]-s-triazin-2-ylamino]- 860423-35-4, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[4,6-bis[p-(5-carboxy-4-hydroxy-m-tolylazo)anilino]-s-triazin-2-ylamino]- 860423-39-8, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[4,6-bis[4-(3-carboxy-4-hydroxyphenylazo)-6-methyl-m-anisidino]-s-triazin-2-ylamino]- 860423-47-8, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[4,6-bis[p-(3-carboxy-4-hydroxyphenylazo)anilino]-s-triazin-2-ylamino]-, disodium salt 874503-91-0, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[4-[p-(3-carboxy-4-hydroxyphenylazo)anilino]-6-[p-[4-[(3-carboxy-4-hydroxy-5-sulfophenylazo)-6-methoxy-m-tolyl]carbamoyl]anilino]-s-triazin-2-ylamino]- (prepn. of)

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